

THE ARCHITECTURAL FORUM

FOR QUARTER CENTURY THE BRICKBUILDER

HOTEL PENNSYLVANIA

New York City

McKim, Mead & White, Architects

Articles describing its architecture,
plan, decoration and construction

CARMELITE CONVENT

Santa Clara, Cal.

Maginnis & Walsh, Architects

BUILDINGS FOR THE MODERN FARM

By Elisha Harris Janes

NEW YORK CITY STREET DECORATIONS FOR RETURNING TROOPS

APRIL 1919



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THE EDITORS FORUM



WE present in this issue a group of carefully selected illustrations of the new Hotel Pennsylvania in New York City that show the high standard of excellence attained by the architects, McKim, Mead & White in this work. There is special significance to this building's character when it is recalled that its construction was carried on in war-time, which necessitated careful use of simple and what in normal times would have been considered inexpensive materials, perhaps at one time thought lacking in dignity for use in a great metropolitan hotel. This building required consideration from the investment point of view fully as much as from the architectural, and it was necessary to eliminate entirely all thought of using marbles and correspondingly expensive finish usually associated with work of this character. These restrictions rather proved an inspiration than a handicap, and in meeting the conditions imposed, the architects have contributed a valuable example of appropriate and dignified use of minor materials.

Plaster, terrazzo, artificial marble, tile, simple wood paneling and decorative painting, all used in a manner to emphasize their desirable qualities and with a fine regard for color combinations, take their place harmoniously and present an ensemble that is far more architectural and decorative than many examples that can be called to mind, where no limitation was placed upon the selection of material. It is one more example and a very convincing one of the oft repeated truism, that a building is a success architecturally in proportion to the thought and creative ability expended on its design, and without reference to the materials entering into its construction.

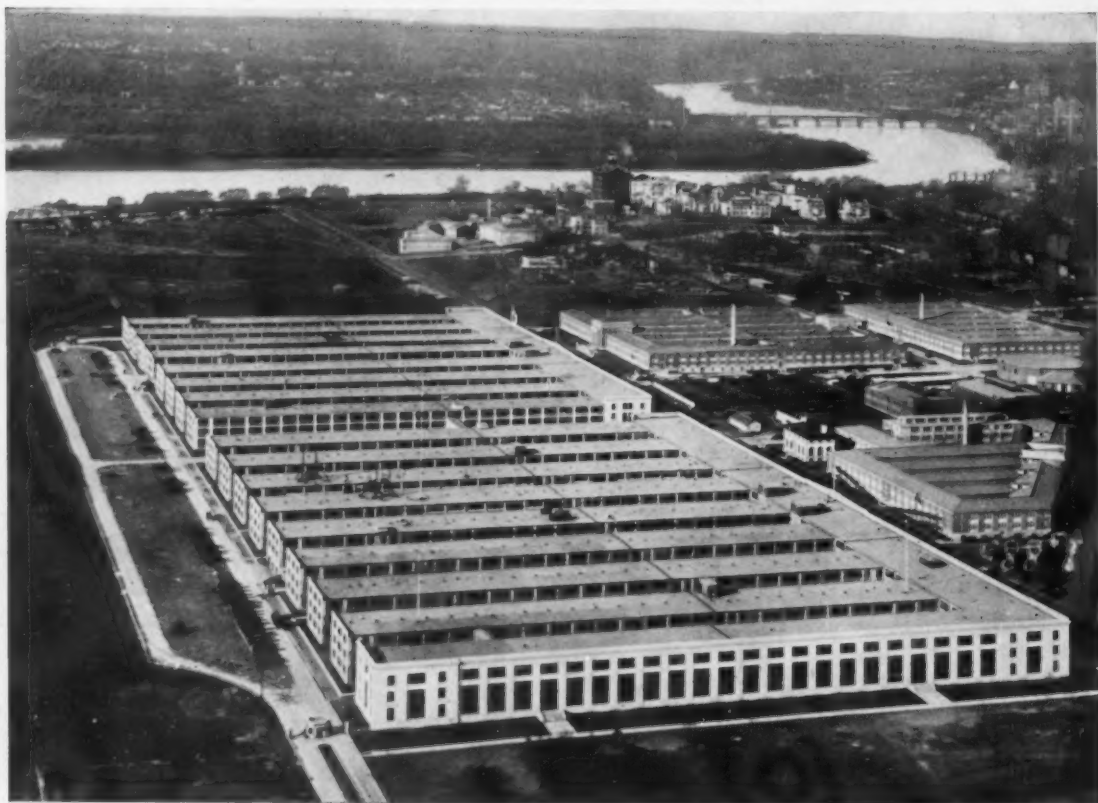
IT is along such lines as this that architects can greatly aid the revival of building during the period of readjustment through which we are passing. Many of our conservative ideas of the fitness of particular materials for certain uses can be given close scrutiny with profit to our architecture and also those clients who must keep the cost of their buildings to a figure that will insure a proper return on their investment. Precedents have in the course of years been established that in normal times would be little questioned, but today we have new problems to solve and precedent must not deter us from seeking new solutions. The prevalent and obstructive theory held by many that construction costs are too high to warrant investment of funds in building, may to a large extent be caused by thinking in the same terms of building as we were accustomed before the war. If we were to consider seriously that present building conditions demand a new and different view of the use of materials, it is not unlikely that a more constructive conception of future work would occur.

ANOTHER factor in the consideration of present building inactivity is the tendency on the part of many to over-estimate the increases that are in effect. Many rough estimates are quickly made for determining probable cost and, in the absence of complete drawings and specifications, figures are submitted that provide for unknown exigencies and, as a result, an abnormal cost is shown that deters the client from giving further consideration to the matter and creates a prejudice that cannot easily be overcome.

This thought is borne out in a statement emanating from the Division of Public Works and Construction Development of the Department of Labor. In it are related the circumstances connected with bids recently asked for by the Bureau of Yards and Docks of the Navy Department on The Seaman and Navigation Building at Annapolis, Md., from which it is quite conclusively shown that present general estimates are above building costs. The department's estimate for this building was \$800,000 and of eighteen responsible contractors of the country who bid on the work, all but one submitted figures below that estimate; one was as low as \$558,927 and most of them were under \$700,000. This shows about seventeen per cent difference between estimate and lowest bid and this incident is considered by the Division of Public Works as tending to confirm its belief that when architects and prospective builders call for actual bids on detailed specifications and working drawings, they may expect to receive figures from ten to fifteen per cent lower than general estimates, and much lower than is popularly believed. This conviction was expressed in the editorial of our February issue and we fully endorse the deductions of the Division of Public Works; careful investigation of building costs, planning in which the use of simple and easily obtained materials is given due consideration, and requests for bids on actual working drawings and full specifications will disclose building prices that will be in proper proportion to the increased revenue that may be had from buildings today.

ROTCH TRAVELING SCHOLARSHIP

For two years on account of war conditions there has been no award made of the Rotch Traveling Scholarship. The conditions do not as yet justify study abroad but the committee announces the examinations will be resumed in 1920 and that the age limit which was heretofore set at thirty years will be extended during 1920 and 1921 to thirty-two years, so that those who did not have an opportunity to compete during the past two years will still be eligible. Further information may be had by addressing the secretary, C. H. Blackall, 20 Beacon street, Boston, Mass.



NAVY AND WAR OFFICE BUILDINGS, WASHINGTON, D. C.

AS SEEN FROM THE WASHINGTON MONUMENT

Architectural Plans Prepared by a Committee of the Bureau of Yards and Docks

Navy Building: main building, 860 feet by 60 feet; with nine wings, each 500 feet by 60 feet

War Building: main building, 780 feet by 60 feet; with eight wings, each 500 feet by 60 feet

*1,885,000 Square Feet of Floor, Including Roof,
Concreted in Approximately Three Months*

First pile driven March 25, 1918.

Total number of piles 5052; piles completed May 28, 1918.

First set of floor forms erected April 20, 1918.

Last portion of roof concreted July 29, 1918.

Time for concrete work, approximately three months.

Navy Department started moving in August 17, 1918.

War Department started moving in August 31, 1918.

Both buildings ready for complete occupancy September 24,
approximately seven months from date of signing contract.

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THE ARCHITECTURAL FORUM

VOLUME XXX

NUMBER 4

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THE VICTORY ARCH, MADISON SQUARE, NEW YORK CITY
Carrere & Hastings, Architects

*Erected in honor of returning overseas troops,
New York's own 27th Division passing through it
in the parade of March 25.*

THE ARCHITECTURAL FORUM

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VOLUME XXX

APRIL 1919

NUMBER 4

New York Street Decorations for the Parade of Overseas Troops

By R. H. SHREVE

NEW YORK'S welcome, on March 25, to the first of her own troops returning from overseas, gave occasion for elaborate decoration of the city's great avenue and other points connected with the program of the day.

The general scheme of street decoration was under the direction of Mr. Paul Chalfin and was planned in an historical sequence in the order of the official ceremony. The plan began at the City Hall, the oldest section, where the inspiration was derived from our colonial days, the features, flags and color scheme being copied from original documents of the time of Washington's inauguration. The Washington Arch was the beginning of the line of march. Madison Square was the first great point of decoration. Here were arranged ornamental shafts flanking the highway and leading to the Victory Arch across Fifth avenue between 24th and 25th streets. The great balloons anchored from the column groups, the flags of the

Allies, and by night the great lighting display, were intended to sound the joyous note of welcome.

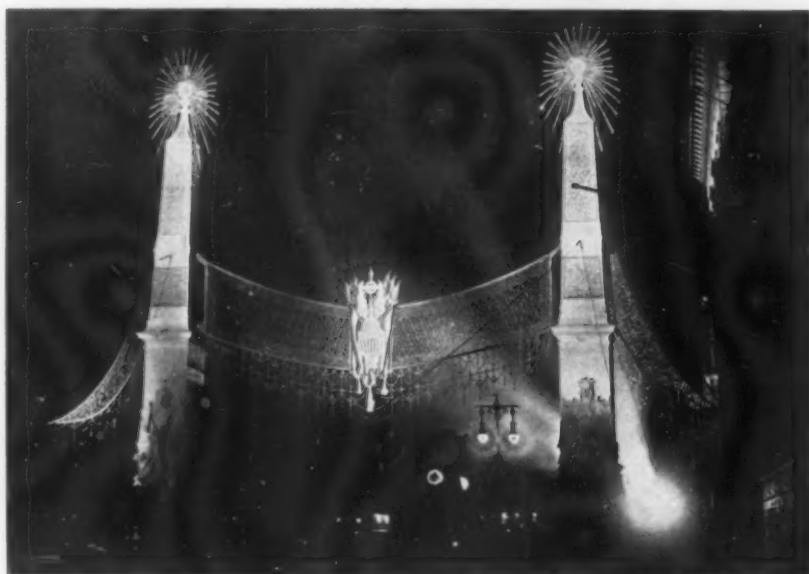
At the Public Library a most impressive ceremony attended the tribute to the head of the division. A roll of honor gave the names of the battles in which the division was engaged, wreathes were laid at the sarcophagus, and the spirit of the decorations, the purple hangings, the shields and the trophies hung on supporting trees, were symbolic of the ending of the struggle and the commemoration of the sacrifice of those who did not return.

Near the entrance to Central Park, at the 59th street Plaza, was placed the great Arch of Jewels and this, with the colors of the Allied Nations, gave expression to mankind's hope for the future, a lasting peace and the union of the peoples of the world in justice.

The design and erection of the Victory Arch and its wealth of sculptures were directed by Mr. Thomas Hastings of the firm of Carrère & Hastings and by



General View of Victory Arch Showing Approach from Lower Fifth Avenue
Arch Designed by Carrère & Hastings, Architects. Other Decorations by Paul Chalfin, Architect



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Night View of the Arch of Jewels at 59th Street Plaza
Paul Chalfin, Architect

Mr. Paul Bartlett, president of the American Sculpture Society, these gentlemen being joint chairmen of the Committee on Art. To arrest the vista down the long avenue, the arch was placed across the roadway, "to give an object to walk towards." The structure is one hundred and twenty-five feet long and one hundred feet high. The Doric order has been used

and the classic lines have been interpreted in a modern spirit, restrained and impersonal, to give a suitable setting for the work of some twenty-five sculptors' collaboration with the architects.

The arch is large in scale, but it is so skillfully proportioned and the architectural ornament has been so deftly modeled that the structure is massive, dignified and impressive. Topping the attic is the sextriga and chariot by Mr. Bartlett, a work of unusual excellence made possible by an adaptation of the horse of the Lafayette statue in Paris, executed by Mr. Bartlett some years ago.

Other sculpture is by Andrew O'Connor, Philip Martiny, Chester Beach, Mrs. H. P. Whitney, Ulysses A. Ricci, John Flanagan, Herbert

Adams and Eli Harvey on the south facade. The north facade shows work by Isidor Konti, Carl A. Heber, Henri Crenier, M. Young, F. M. L. Tonetti, H. M. Thrady, Daniel C. French and Frederick Roth. The panels on the east end are by P. Testi and Charles Keck and those on the west by R. H. Perry. Two lunettes in the passage are by John Gregory.



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Central Feature of the Court of Honor at the Public Library
Paul Chalfin, Architect

Hotel Pennsylvania, New York City

McKIM, MEAD & WHITE, ARCHITECTS

THE Hotel Pennsylvania, recently completed in New York City, is a valuable addition to that part of the city opened up for redevelopment at the time the Pennsylvania Railroad erected its great passenger station there, and the Federal Government the new main post office. The station occupies two entire blocks, bounded by Seventh avenue on the east, Eighth avenue on the west and 31st and 33d streets on the south and north respectively. The post office is on the westerly side of Eighth avenue, opposite the station, and the new hotel on the easterly side of Seventh avenue, also opposite the station. It occupies a plot two hundred by four hundred feet, the frontage on Seventh avenue, two hundred feet, being a full block. It is bounded on the north and south by 33d and 32d streets and extends eastward to the Gimbel store.

The building has twenty-two floors from street

level to roof and contains twenty-two hundred guest rooms and bath. The entire ground area is built up to a height of four stories, or approximately the same level as the roof of the Pennsylvania Station. Above these floors three large courts opening to the south are introduced, which give four guest room wings to the typical plan. These wings are each fifty-four feet wide and the courts forty feet wide. There are seventeen bedroom floors, with an average of one hundred and twenty-five rooms to a floor. The rooms in the Seventh avenue wing are larger than those in the others and some have outside bathrooms, but the typical floor arrangement shows rooms either side of a central corridor, the baths and closets arranged on the corridor side leaving a vestibule-like entrance to the rooms, which serves to minimize noises that may occur in the corridors.

The lower stories are faced with Indiana limestone

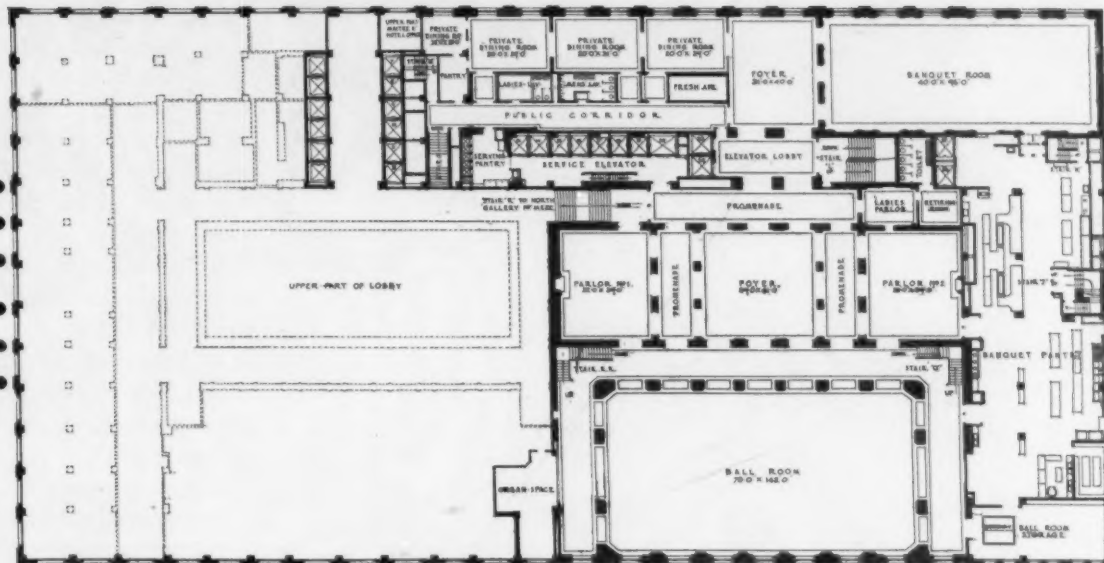


General View of Hotel Pennsylvania from Southwest

Brothers' store with elevators and loading platform to care for the store deliveries which are now crowding the 33d street pavements.

The basement floor has direct entrances from the platform of the 34th street express station of the Seventh avenue subway. At the 33d street side of the hotel there is a wide passage under Seventh avenue connecting directly with the Long Island Railroad station and at the 32d street side a similar passage for Pennsylvania Railroad passengers.

The bedroom stories are contained in a shaft faced with buff colored brick, with a crowning feature consisting of a three-story order of pilasters with a main cornice of terra cotta. A structure on the Seventh avenue wing roof contains the roof garden



Ballroom Floor Plan

restaurant, on the floor above which is an extension of the elevator pent house. The second wing roof is left uncovered for use as an outdoor after-dinner lounging space accessible from the roof garden by a bridge across the first court.

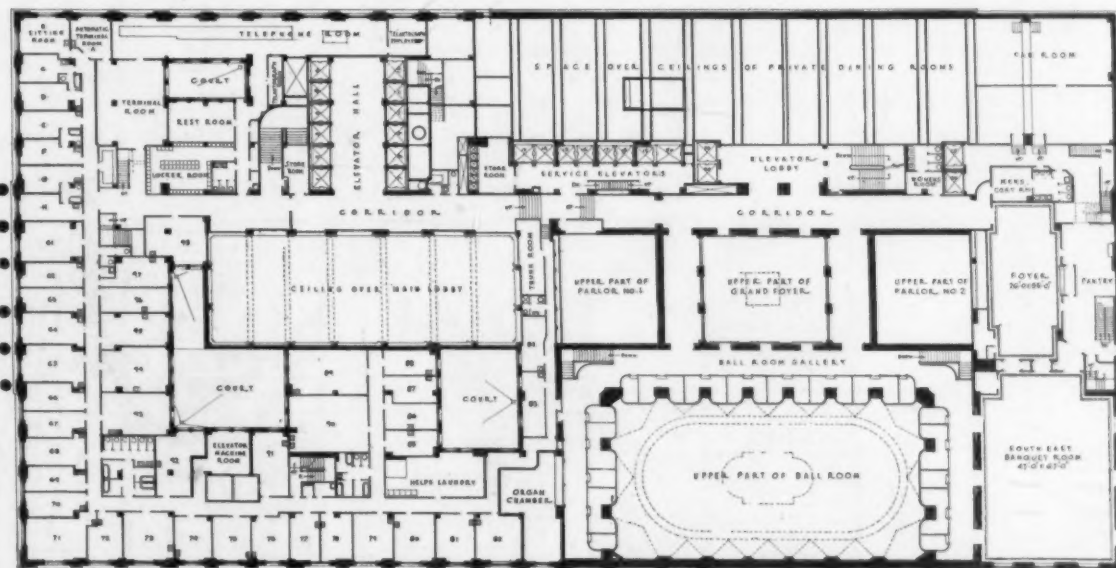
The roofs of the two easterly wings are left open for future development and provision is made in the framing for connecting these roofs with bridges similar to that in the first court to provide for a complete scheme of circulation.

Mechanical and Kitchen Equipment of Hotel Pennsylvania

By FREDERICK G. COLTON

IN planning the mechanical equipment for a city hotel on a lot 400 feet by 200 feet, with twenty-two hundred guest bedrooms, twenty-two hundred bathrooms, dining-rooms, ballrooms and other public spaces, it was at once evident that one basement floor of about 60,000 square feet would not be sufficient for the equipment and for 2000 employees' accommodations. And although

there are no power and no large electric generator plants in the building, still it was found that not one but two additional basements would be required to



Second Mezzanine Floor Plan



Detail of Main Entrance on Seventh Avenue

by the Pennsylvania Railroad tunnels in 33d and 32d Streets taking up space inside the building lines. Therefore, except for some spaces on the upper floors given over to this equipment, three floors, or approximately 160,000 square feet, are used in this way.

SUB-BASEMENT FLOOR. The lowest or "sub-basement floor" is thirty-nine feet below the street level. On this floor are the following plants together with pumps, machine shops, storerooms, locker rooms, toilet rooms, corridors, stairs, elevators, etc.

Laundry Plant	20,000 sq. ft.
Refrigeration Plant	5,300 sq. ft.
Incinerator Plant	1,000 sq. ft.
Electric Plant	4,300 sq. ft.
Plumbers' Plant	4,000 sq. ft.
Vacuum Cleaning Plant	
Compressor Plant	
Ventilation Fans	

The laundry is 200 by 130 feet or about 20,000 square feet in area and is divided into three parts, the ironing room, the washroom and the guests' laundry. The ironing room and washroom are planned large enough to have in future, if necessary, additional washers, ironers and extractors. The laundry equipment is capable of turning out more than one hundred thousand pieces

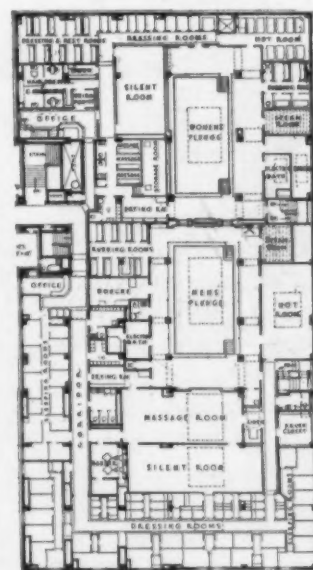
house this mechanical equipment and give storage space below the street level. This was the more evident also because about twenty per cent of these two additional areas or floors was lost to the hotel

a day and about two hundred employees are kept constantly busy.

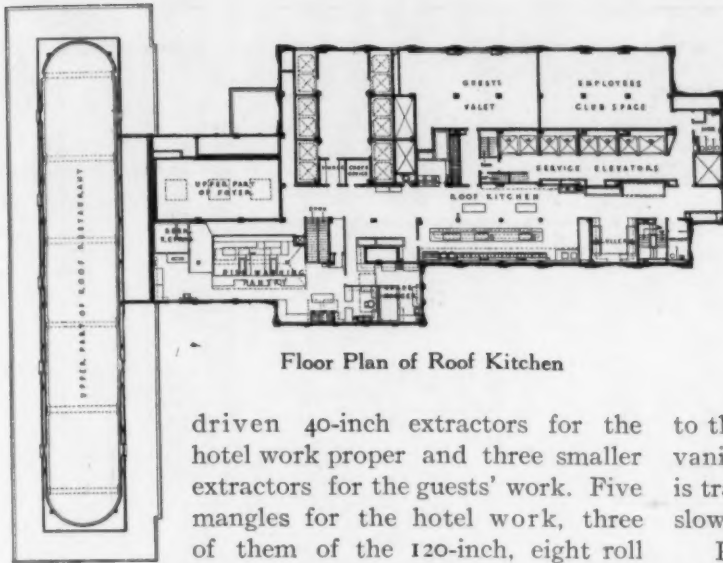
There are ten washers for the hotel and four smaller washers for the guests' work; twelve over-



Typical Floor Plan



Turkish Bath Section of Third Floor



Floor Plan of Roof Kitchen

driven 40-inch extractors for the hotel work proper and three smaller extractors for the guests' work. Five mangles for the hotel work, three of them of the 120-inch, eight roll type, and one "monitor" 120 by 30 inches, and one "annihilator" 120 by 48 inches — comprise further equipment. Near the above in the most convenient locations, are the hot and cold tumblers, soap tanks, tables, curtain dryer, etc. Every piece of machinery is placed so as to give ample room and perfect circulation for all working conditions. All exposed belts are protected.

The guests' laundry is so located that it can be entirely shut off from the main laundry, or be used with it, as occasion may require. This department is fully equipped with all the most modern machinery and a large number of ironing tables for hand work. Great care has been taken to ventilate all these laundry spaces and the air is changed every two or three minutes or about twenty-five times an hour. Hoods are placed over all mangles, washers, tumblers and dryers, from which large ducts carry the hot air to fans which exhaust the air into large flues.

THE REFRIGERATION PLANT is placed in the lower middle section of the sub-basement floor and is so arranged that the three vertical type ammonia compressors are near the steam supply entering the building. The Pennsylvania Railroad power station in 31st street between 7th and 8th avenues, supplies this steam and also the electricity. This refrigeration plant takes care of all the refrigerators in the hotel, which are altogether about 50,000 cubic feet in size; the cold water drinking system with outlets in every bathroom, in all public spaces and service departments; and the cake ice. The cake ice system with a capacity of 200 cans each of 300 pounds capacity, or about fifteen tons of ice a day, is in close connection to the cake ice storage refrigerator and ice cutting room where ice cubers, crushers, and shavers prepare

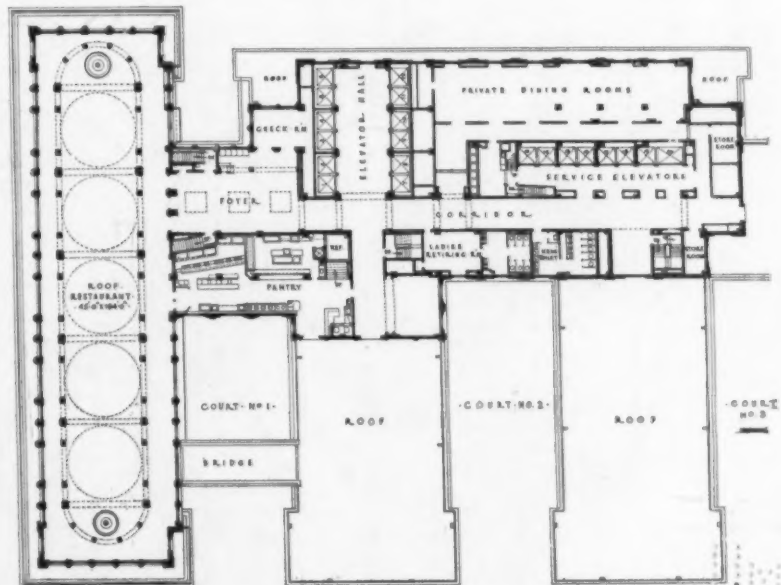
the ice for its different uses in the service.

THE INCINERATOR PLANT is placed back of the service elevators so as to be in the most convenient location for operation, and has a furnace 28 feet by 8 feet in size. All rubbish from the building is burned in this plant as well as the refuse from the kitchens which is poured into it from the floor above. This plant has a capacity of about twenty tons of garbage a day.

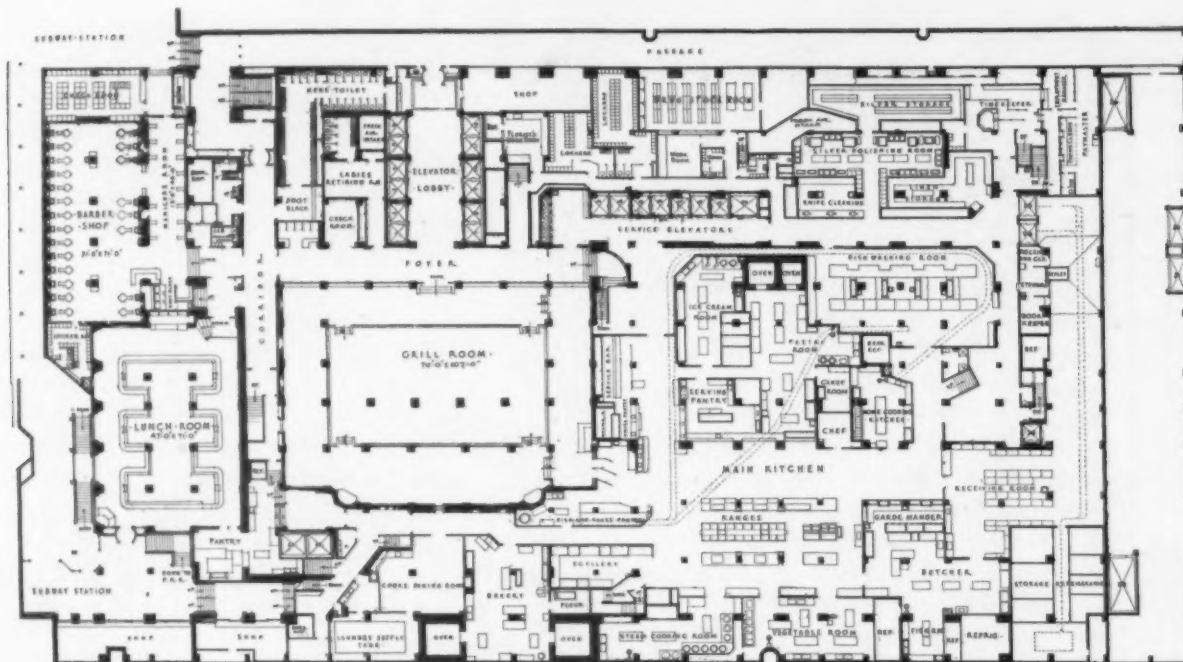
THE ENGINE ROOM is in the centre of the building with the fifty-foot switchboard directly under the electric cables, which run to the roof. The current is taken from the Pennsylvania Railroad power station on high voltage and is transformed in the transformer room. There is one slow speed engine for the 500 K. W. dynamo.

PLUMBERS' PLANT. This department adjoins the engine room and contains the plumbers' tanks, filters, pumps, etc. There are two suction tanks of about 50,000 gallons capacity, which with the 50,000 gallon tanks on the upper levels and roof, give a reserve of 100,000 gallons of water. Twelve filters, each rated at 250 gallons per minute, give a total capacity of 3,000 gallons of clear water a minute. Other filters provide for the Turkish baths. Eight hot water heaters have a total capacity of 92,000 gallons per hour. Six of 12,000 gallons each are for the upper floors, kitchen departments and laundry, two heaters being assigned to each group. The remaining two of 10,000 gallons each serve the laundry.

Five large pumps are installed on this floor, four house pumps, two of which are steam and two electric, each with a capacity of 800 gallons per minute and a steam fire pump with a capacity of 1000 gallons per minute. There are three 250 gallon sewage ejectors in the sump pit, operated by air pressure, and two



Main Roof Plan



Basement Floor Plan

electric pumps to take care of the ground water.

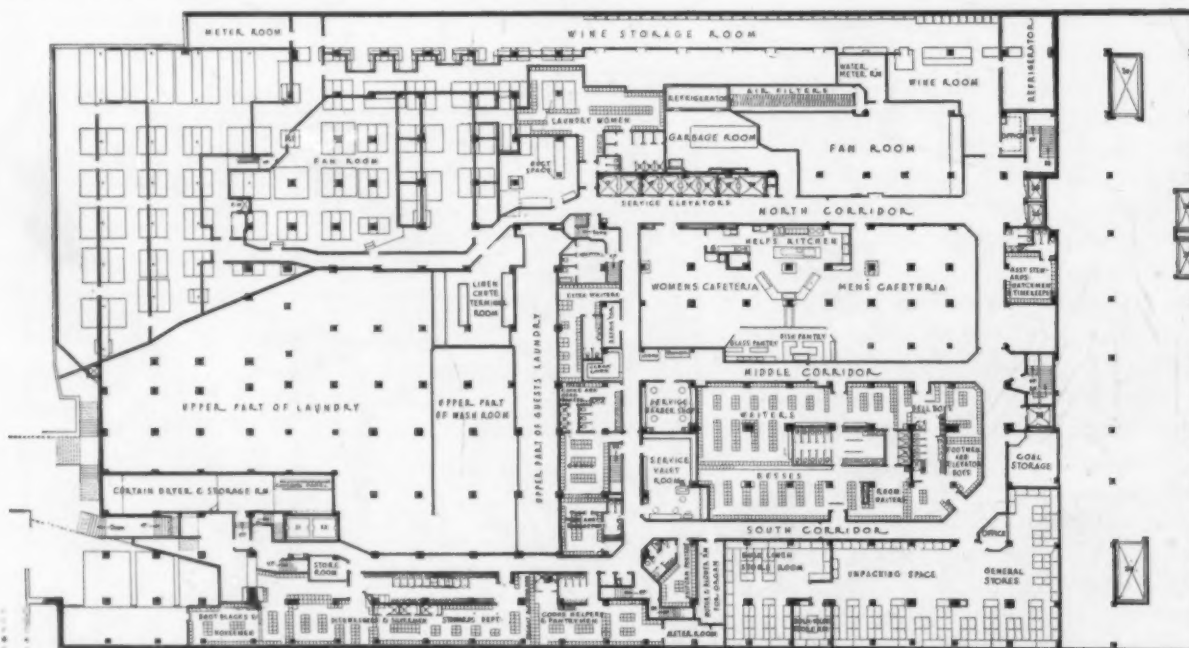
The remainder of the sub-basement floor is given up to supply rooms, storage rooms, machine shops, paper baling room, elevator machinery, toilet and locker rooms.

SUB-BASEMENT MEZZANINE FLOOR. The 50,000 square feet of space on this floor are used largely for employees. Here are large toilet and locker rooms for 1200 people, a cafeteria dining room for men and women, an employees' barber shop and an employees' valeting room, together with a ventilation system of ducts, fans, air washing machines, motors and air filters, a large general bulk storeroom and storage

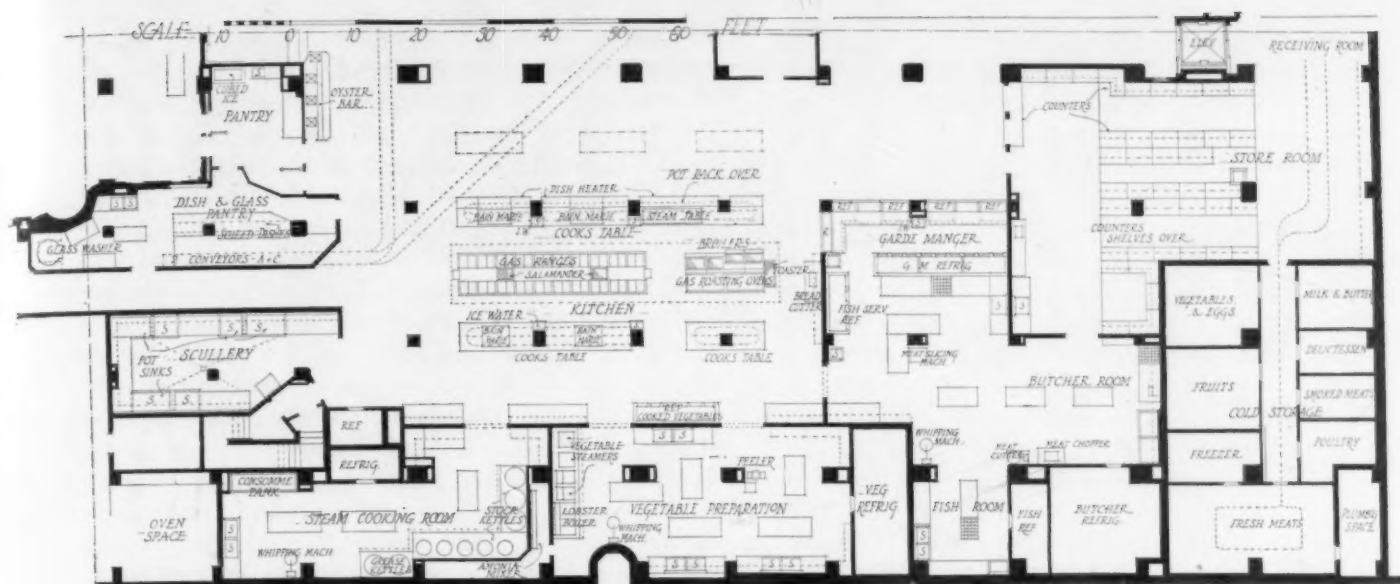
space, coal room, and a large wine storage room with a refrigerator and an extensive range of racks.

BASEMENT FLOOR. The basement floor has an area of about 60,000 square feet. Here are the main kitchen and its dependencies, the grill room, lunch room, guests' barber shop, toilet rooms for guests and for employees, locker rooms, receiving room for steward and his storerooms.

In the main kitchen the bulk of the food preparation and cooking is done for the entire building but in addition to this kitchen, there are throughout the house six pantries or kitchens where food is cooked and served. Also on each of the seventeen bedroom



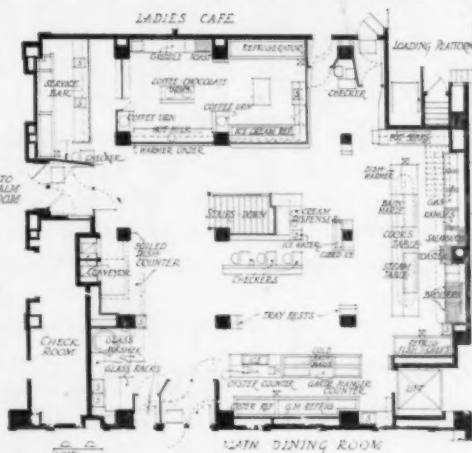
Sub-Basement Mezzanine Floor



Detailed Plan of Main Kitchen, Basement Floor

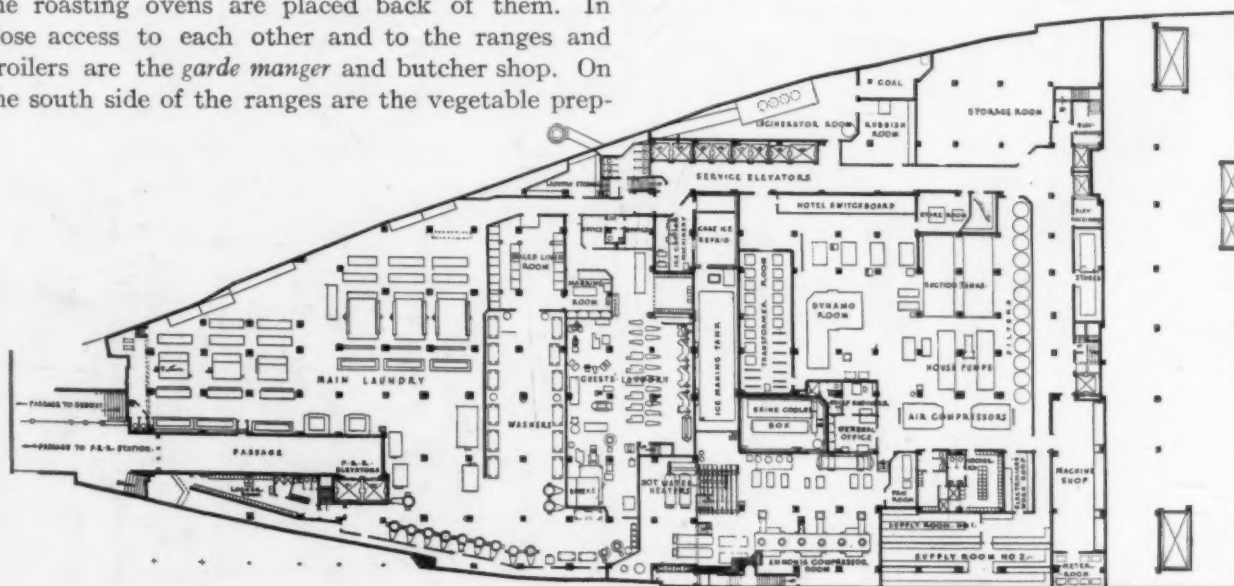
floors, there is a small waiter's pantry for room service. These pantries are equipped with a dish heater, an egg boiler, a coffee urn, and a refrigerator. A dumb waiter service of six dumb waiters connects each floor pantry with the main kitchen. These pantries were found necessary for good service because of the large number of rooms, about one hundred and twenty-five, on a floor.

The main kitchen is planned for good, quick service without overcrowding. The ranges are gas heated and placed back to back, giving a frontage of sixty feet. The broilers extending twelve feet are in a separate group and the roasting ovens are placed back of them. In close access to each other and to the ranges and broilers are the *garde manger* and butcher shop. On the south side of the ranges are the vegetable prep-



Plan of Serving Pantry on First Floor

paration room and the steam cooking room with the stock boilers and steam kettles. The scullery is a large room quite near the ranges where all the pots and pans are washed in great tanks of hot water and steam. On the north side of the main corridor of the kitchen are the serving pantries for coffee, pastry, fruit, ice cream, and for breakfast service. Here too, is the chef's office, centrally located, so he may have proper supervision. The "Home Cooking Kitchen" is a special feature of the hotel. Here are cooked many home dishes that hotel guests never get properly prepared in the usual hotel menu.



Sub-Basement Floor Plan

The dining spaces are as follows:

		Sq. Ft.	Seating
Help's Cafeteria, Officers' and maids'	120'x48'	5800	600 people
Cafeteria,	150'x25'	3750	400 people
Grill room,	76'x91'	6900	450 people
Lunch room,	47'x71'	2300	110 people
Men's café,	73'x48'	3500	230 people
Dining room,	142'x58'	8200	650 people
Palm room,	39'x60'	2400	160 people
Private dining rooms,	50'x20'	1800	100 people
Banquet room,	96'x41'	4000	300 people
Ballroom,	140'x60'	8500	800 people
Roof restaurant,	130'x45'	8500	700 people
		55650	4500 people

Areas of kitchens and pantries are as follows:

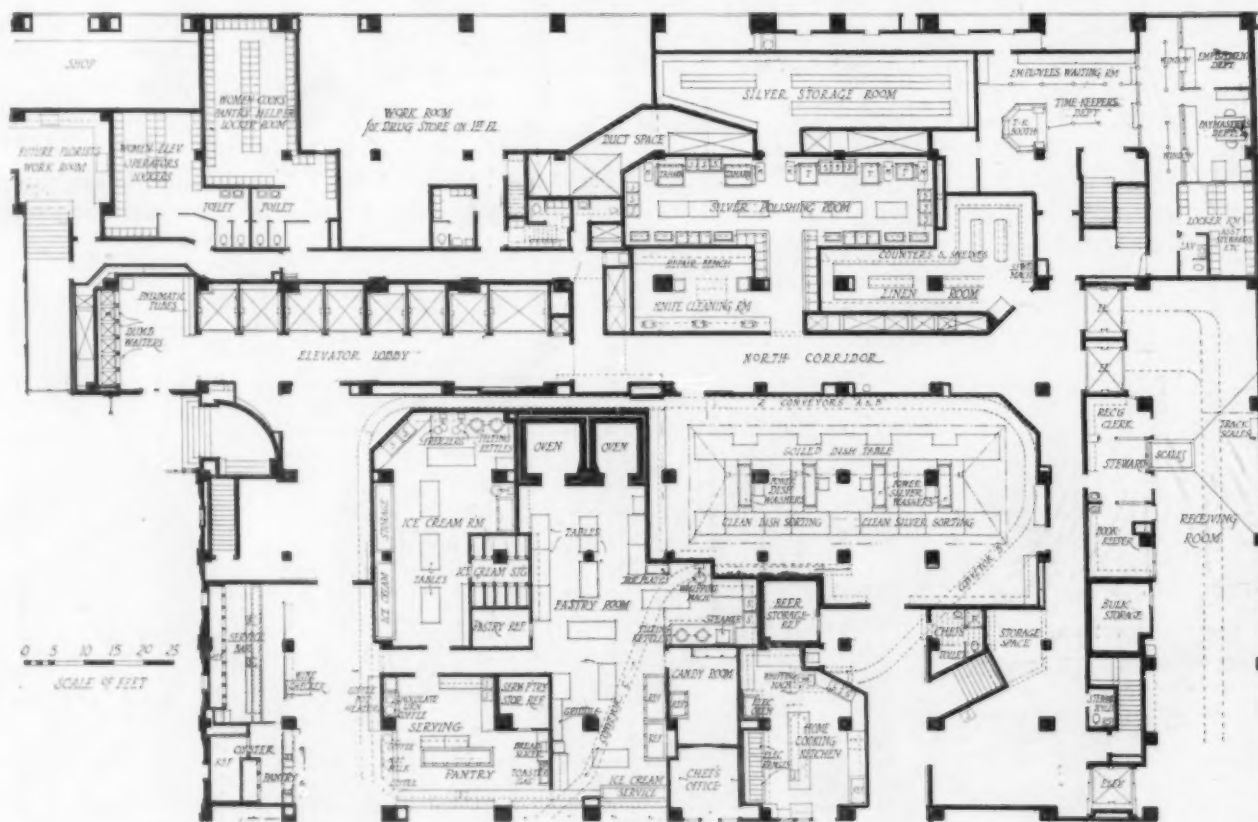
The main kitchen	130'x150'	19500 sq. ft.
Bakeries, pantries, etc.		2500 sq. ft.
Cafeteria sub-basement,	28'x50'	1400 sq. ft.
Kitchen, 1st floor,	60'x60'	3500 sq. ft.
Men's café,	16'x45'	700 sq. ft.
Lunch room,	50'x20'	1000 sq. ft.
Banquet room pantry,	130'x40'	5700 sq. ft.
Roof pantries and kitchen,		6000 sq. ft.

40300 sq. ft.

It is interesting to note that all the hotel supplies are delivered by elevators from the street level to the large steward's department east of the main

kitchen, and also to the general bulk storage room on the sub-basement mezzanine floor. On this floor all meats, vegetables, fruit, milk, butter, eggs, etc., are delivered and placed in large storage refrigerators in the steward's department and distributed as required to the different kitchen departments. The chief steward's department is in very close touch with the kitchen and yet is entirely cut off from it by fireproof walls and fireproof doors. The work of receiving and checking supplies is carried on smoothly and quickly. Platform scales, track scales and overhead tracks, ample shelving, good organization make for the efficiency of this department. Congestion is eliminated and the service runs like clockwork. Great care was taken to make the kitchen in every department sanitary, comfortable and convenient. The ceiling is high, the walls and floor are tiled, the ventilation is very complete and the lighting good. The service for the waiters is simple and direct and the working spaces are ample for the large force of chefs and helpers.

Just outside the grill room service entrance, is the glass washing pantry, where the glassware is washed in a machine for the purpose. Here also the soiled dishes from the grill room are put in trays and carried on a belt conveyor to the dish washing room. In this room also are other machines for washing the silver and china. In a separate room, the silver is polished by machines of different sizes. There are eleven of these machines and beside them are large



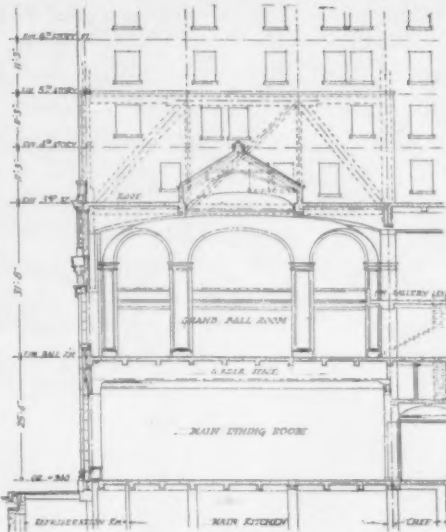
Detailed Plan of Pastry Kitchen and Accessories, Basement Floor

sinks for washing the silver after burnishing. Back of this room is a large silver storage room. The knife cleaning room adjoins the silver polishing room with an entrance from the main corridor.

When it is considered that this kitchen with its auxiliary kitchens and pantries provides for over five thousand people at a meal or perhaps thirteen thousand people in twenty-four hours, one can begin to realize that the space and equipment had to be very carefully studied and planned and replanned to meet all the requirements of feeding so many people according to modern conditions and high standards.

AUXILIARY KITCHENS. The lunch room has a small kitchen with ranges, refrigerators, steam tables, urns, etc. The men's café has an electric grill together with refrigerators, steam tables, oyster bar, etc. This service opens directly into the men's café and is quite popular; the idea of having this feature was to give quick and good service with variety of menu. The main dining room also has on the same floor with it a special kitchen. This has proved to be a great success and is strongly recommended. The service is simplified and reduced and the wear and tear on the waiters, climbing up and down stairs for every order from the main kitchen, is eliminated. This kitchen is connected with the main kitchen by stairs, elevator and conveyors so that supplies are procured quickly, and soiled dishes are removed from the floor immediately. This dining room kitchen was a very happy idea and now accomplishes more than was expected of it. There is a serving pantry and part kitchen on the ballroom floor for the banquet rooms, private dining rooms, and for the large functions in the ballroom. This room connects by two large elevators with the main kitchen three floors below. To serve the roof restaurant a serving pantry and kitchen were placed in the roof spaces. This kitchen also connects with the main kitchen by service elevators.

In working out the mechanical equipment, the most approved devices are incorporated, for of modern buildings there is none so complex as a metropolitan hotel nor none requiring greater service from its



Section Showing Trusses Over Ballroom

equipment. Great care and study have been given to the smallest detail in order that every portion of the building would function efficiently. The telephone service is most complete for intercommunication. Nevertheless, supplementing this, there are telautograph receivers and transmitters, time clocks, time stamps and pneumatic tubes, throughout the building. Details of management were determined as the working drawings progressed, and the resulting building is perfectly organized for its use, proving that architecture, structure, and plan form an entity for complete success.

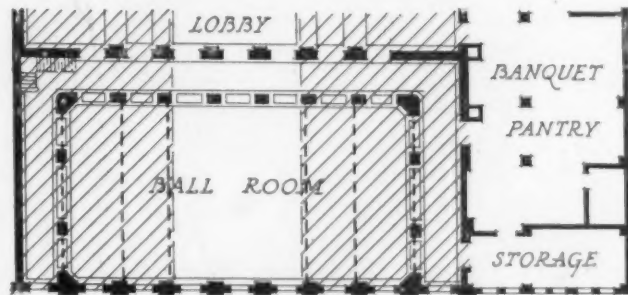
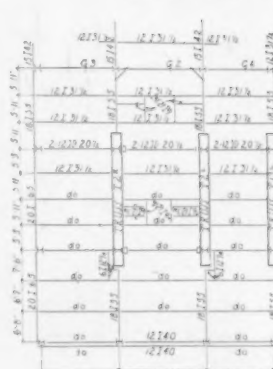


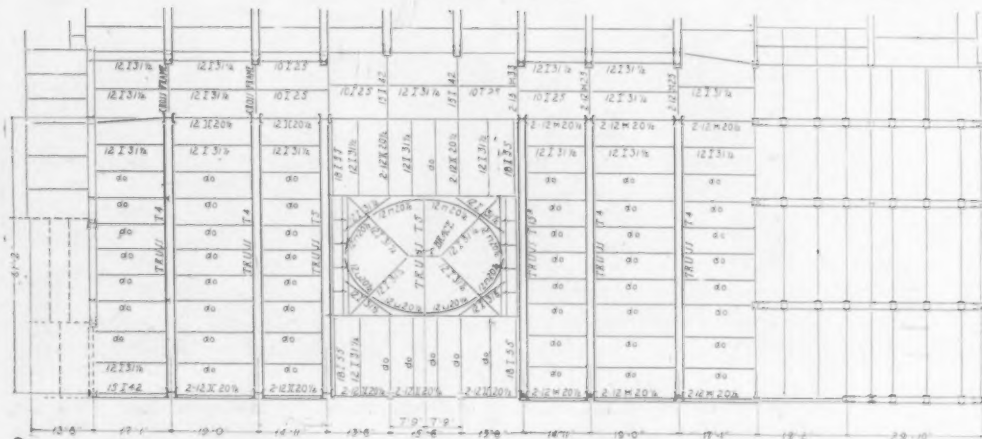
Diagram Showing Relation of Bedroom Wings to Ballroom
Dotted Lines Show Position of Trusses



5th Floor, Wing 3



4th Floor, Wing 3



Third Floor Framing Plan Showing Bottom Chords of Trusses in Wings 3 and 4

Steel Framing Features of Hotel Pennsylvania

By THEODORE C. TUCK, Engineer for Post & McCord, Inc.

SOME of the structural features of the Hotel Pennsylvania are of interest, though they do not differ in any striking or unusual degree from those presented in other metropolitan hotel buildings, where a large part of several floors must be planned for open spaces to provide for public facilities.

A portion of the building rests on the roofs of the Pennsylvania Railroad tunnels. These tunnel roofs when constructed were designed to take the load of a future large building and the footings of the hotel that rest on them were arranged as spread footings with a load of five tons per square foot.

The large rooms that required special framing over them because of the absence of columns are the lobby, main dining room and ballroom with accompanying parlors and foyer, and the large private dining room on the 33d street side. The two pools in the Turkish baths on the third floor also required some specially heavy steel work in order to frame around them and provide for the building overhead.

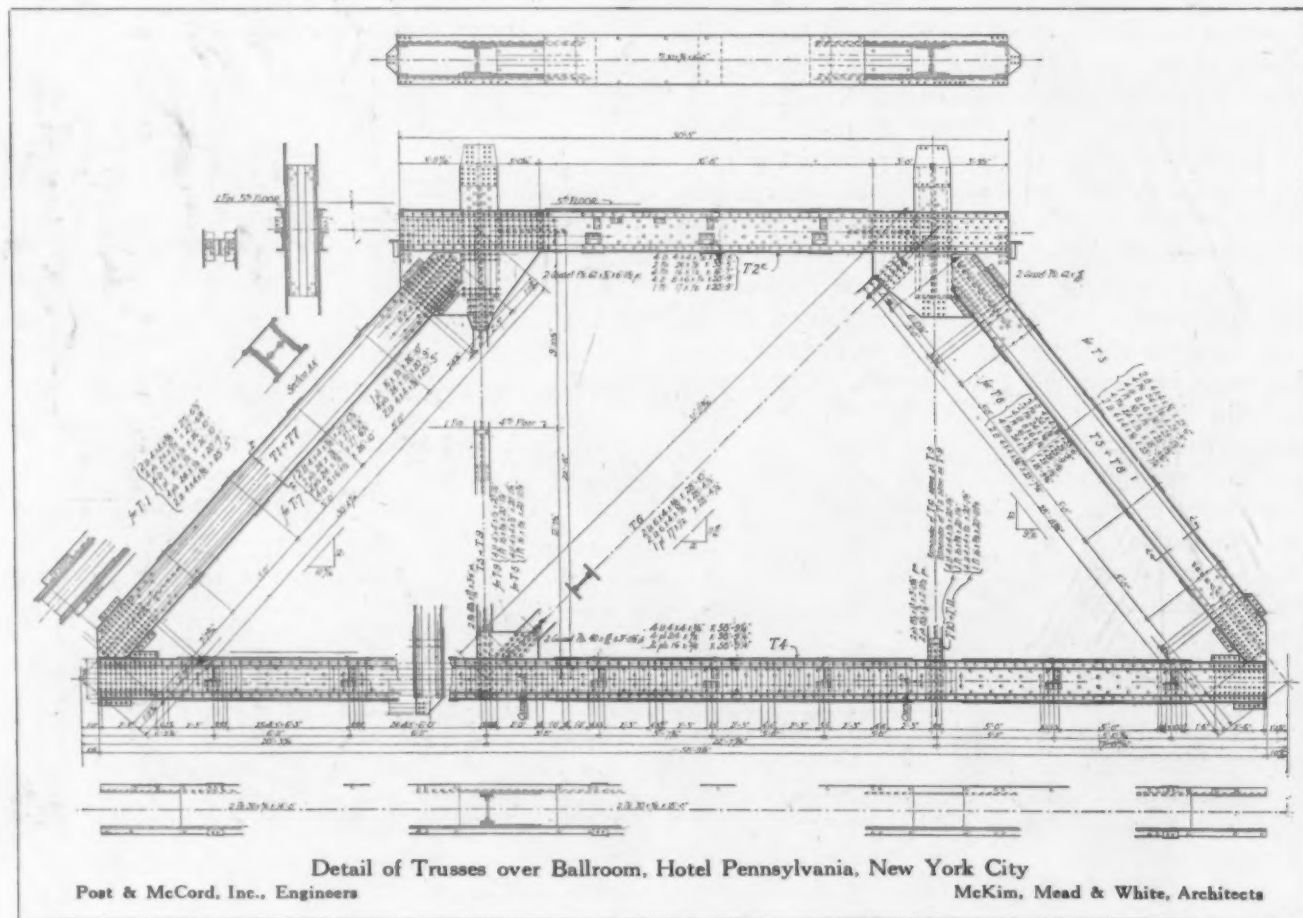
The long spans over these public rooms were taken care of with plate girders with the exception of those over the ballroom, where a series of trusses were used, as shown by diagrams on preceding page.

There are six of these trusses in all, each weighing sixty tons. They extend through two floors, their

top chords at the fifth floor level and the bottom ones at the third floor. Two of them occur in the opposite exterior walls of court No. 3 and two in each of the wings 3 and 4; the latter being concealed in the partitions between the guest rooms and bathrooms. The openings to the rooms and the windows in the exterior walls as shown by the accompanying section, were arranged to come in the open spaces of the trusses, so that but little space was lost, these floors showing only a few rooms less than the typical floor.

The remainder of the framing was accomplished by girders, the largest of which weighs 35 tons. The large space occasioned by the lobby is framed by a series of plate girders spanning 41 feet (the distance between the marble columns), and grouped in pairs 20 inches on center, placed at the second floor level. These in turn are supported by other deep single plate girders spanning the line of columns each side of the lobby and concealed in the deep plaster frieze.

Economy of space, consistent with both good architectural and structural design, was kept constantly in mind, and there is very little waste space in the building caused by the heavy construction, the spaces between girders being nearly all occupied with storage floors or ventilating ducts. The total tonnage of the building is 18,000.





VIEW OF SEVENTH AVENUE FACADE FROM 3RD STREET, SHOWING PENNSYLVANIA STATION IN FOREGROUND
HOTEL PENNSYLVANIA, NEW YORK CITY
McKIM, MEAD & WHITE, ARCHITECTS

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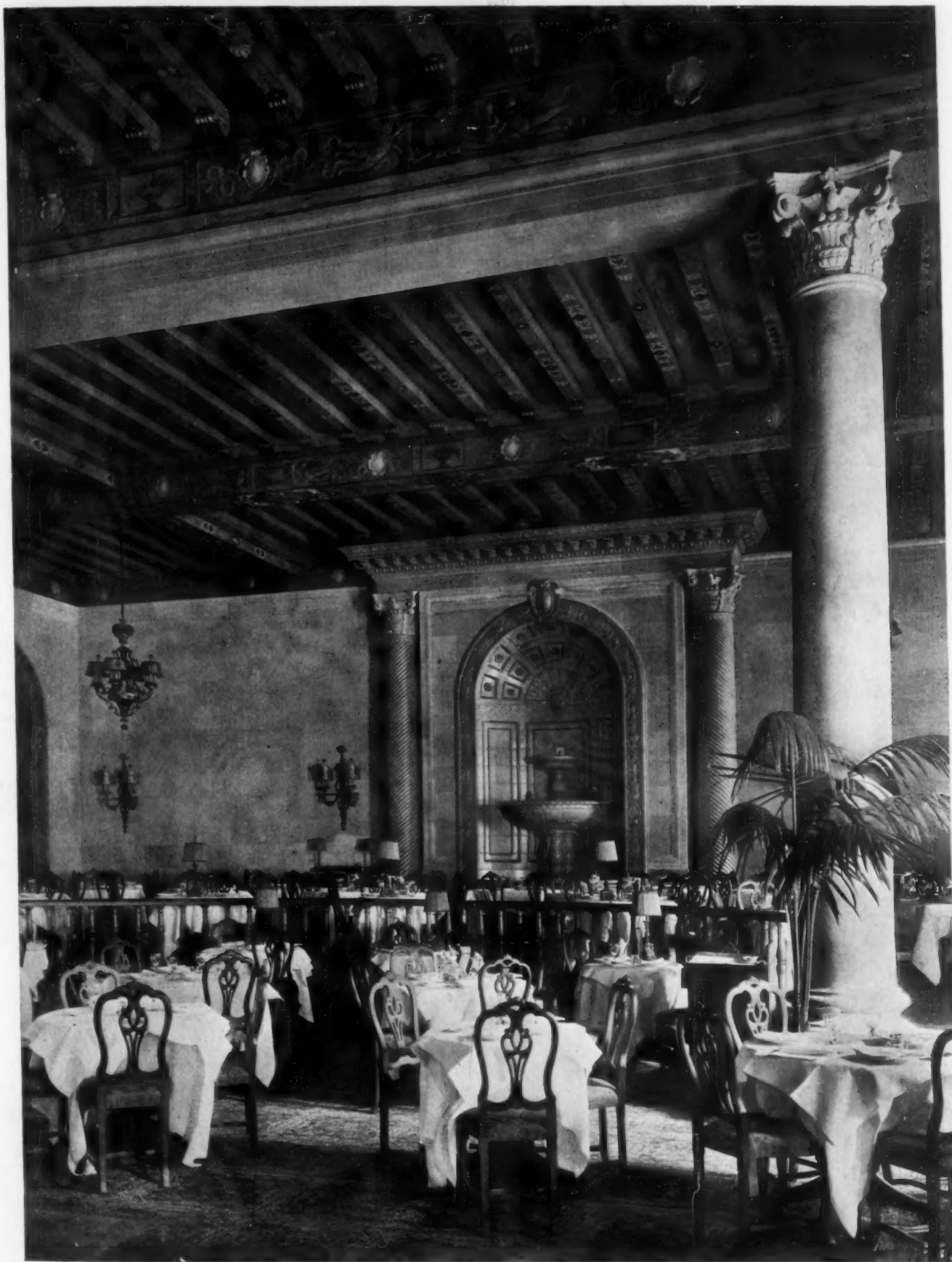
VIEW OF MAIN LOBBY
HOTEL PENNSYLVANIA, NEW YORK CITY
McKIM, MEAD & WHITE, ARCHITECTS

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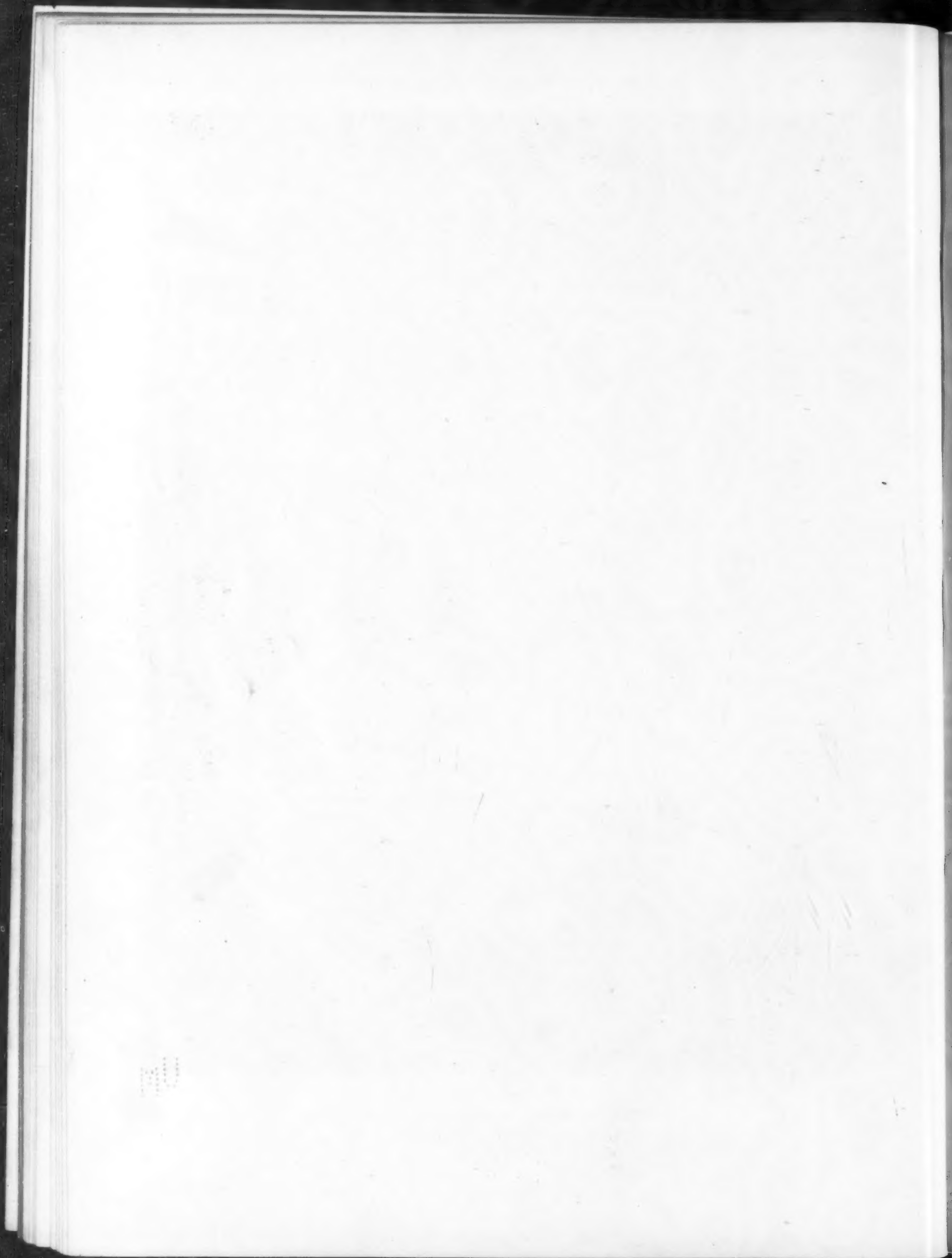


WEST END OF MAIN DINING ROOM
HOTEL PENNSYLVANIA, NEW YORK CITY
McKIM, MEAD & WHITE, ARCHITECTS

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WALL FOUNTAIN AT EAST END OF MAIN DINING ROOM
HOTEL PENNSYLVANIA, NEW YORK CITY
McKIM, MEAD & WHITE, ARCHITECTS



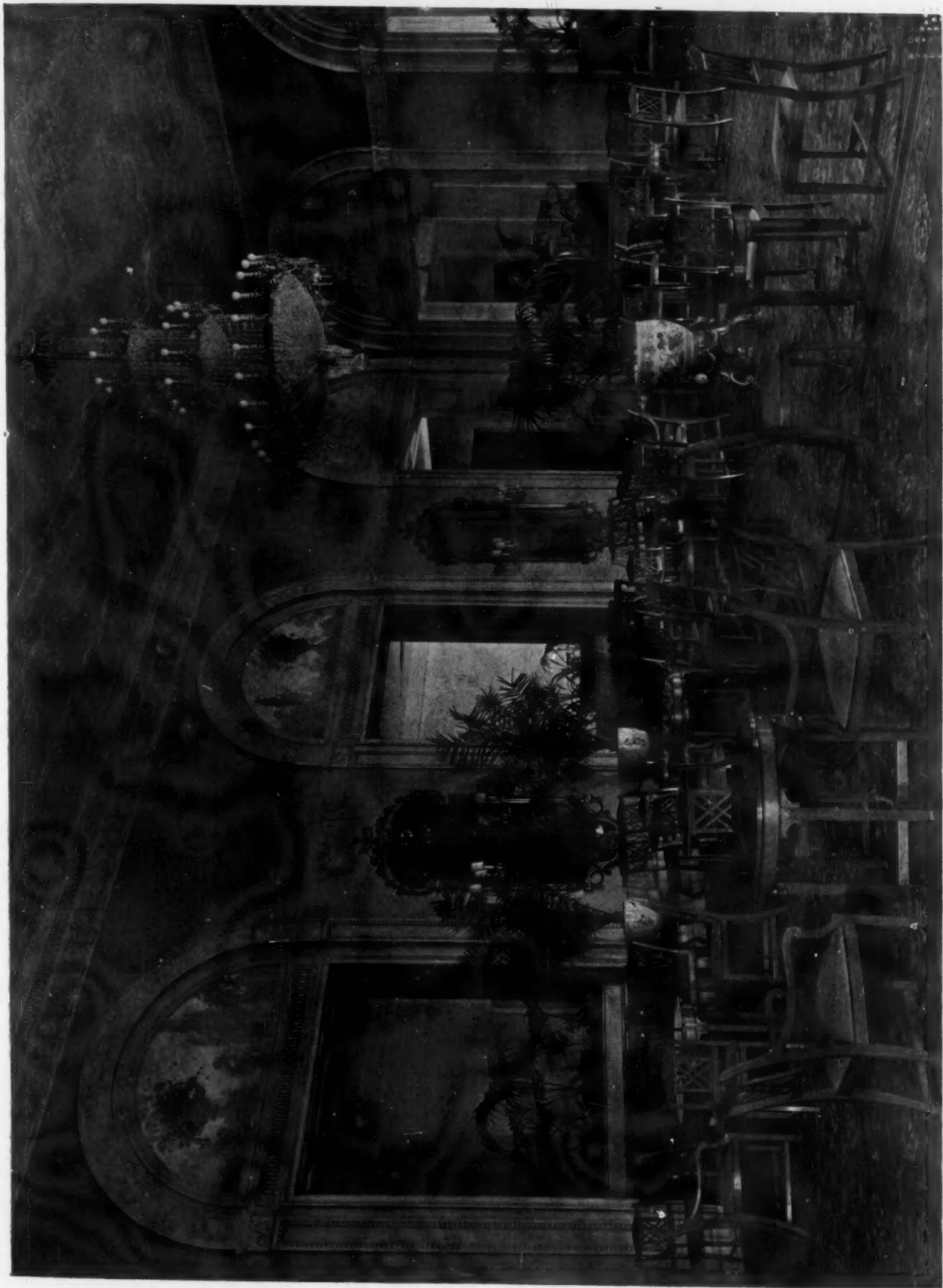


DETAIL OF BALLROOM

HOTEL PENNSYLVANIA, NEW YORK CITY

McKIM, MEAD & WHITE, ARCHITECTS

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GENERAL VIEW OF PALM ROOM
HOTEL PENNSYLVANIA, NEW YORK CITY
McKIM, MEAD & WHITE, ARCHITECTS

1875
1876
1877
1878
1879



DETAIL OF GRILL ROOM
HOTEL PENNSYLVANIA, NEW YORK CITY
McKIM, MEAD & WHITE, ARCHITECTS

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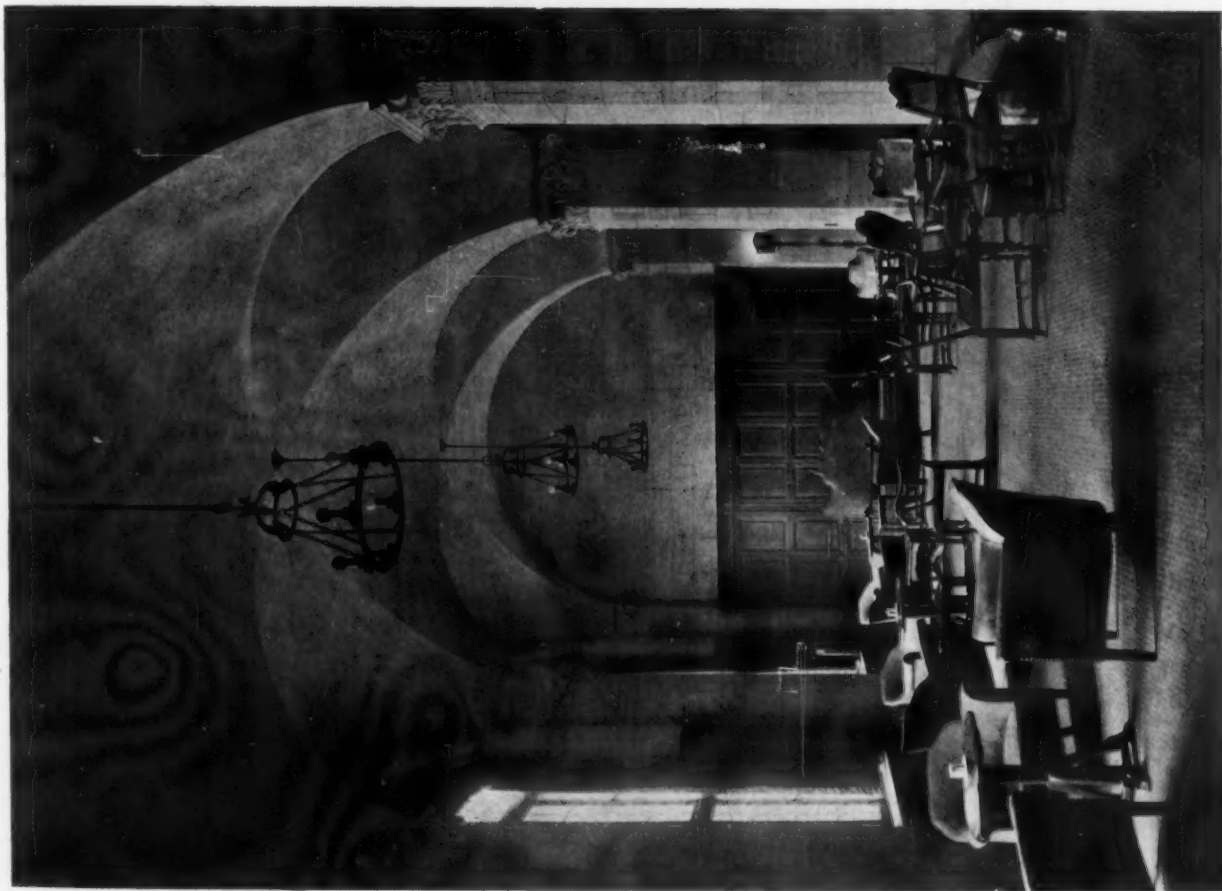


MANTEL IN MEN'S CAFE
HOTEL PENNSYLVANIA, NEW YORK CITY
McKIM, MEAD & WHITE, ARCHITECTS

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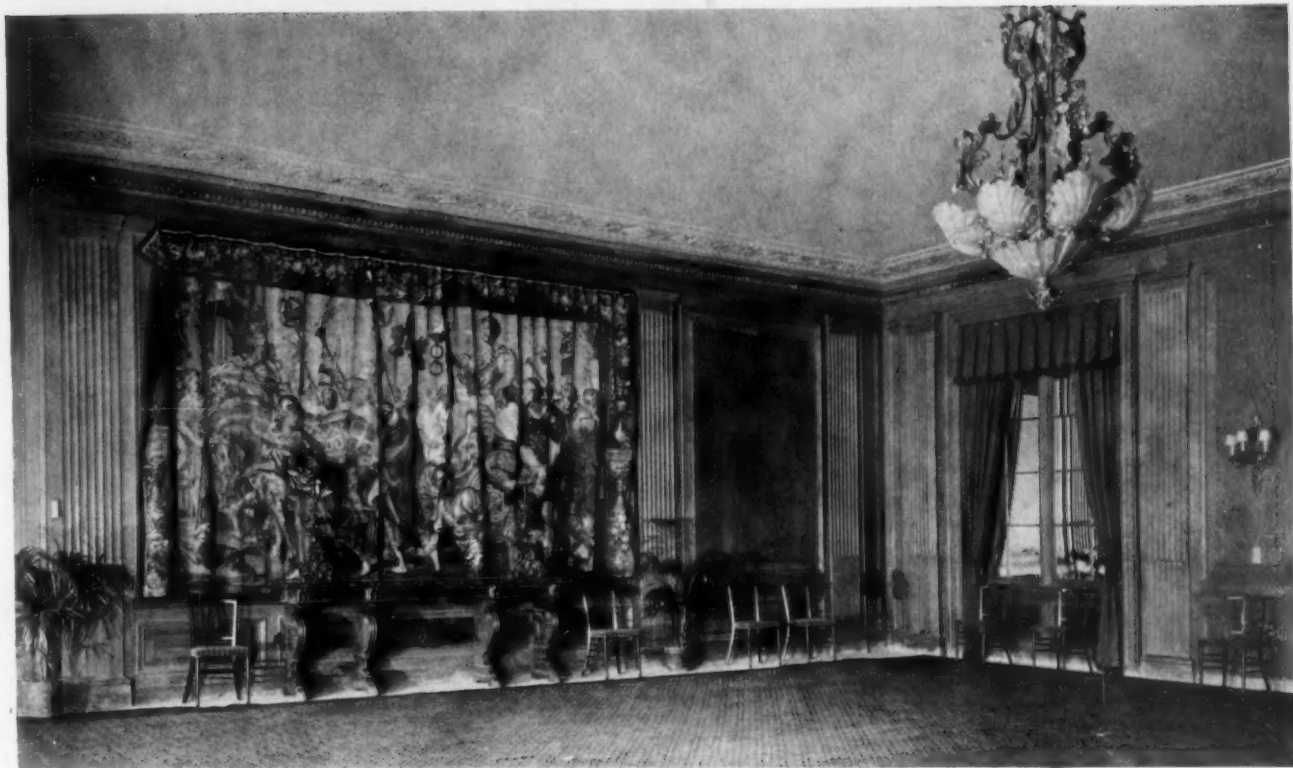
MEN'S CAFE



BARROOM

HOTEL PENNSYLVANIA, NEW YORK CITY
McKIM, MEAD & WHITE, ARCHITECTS

2

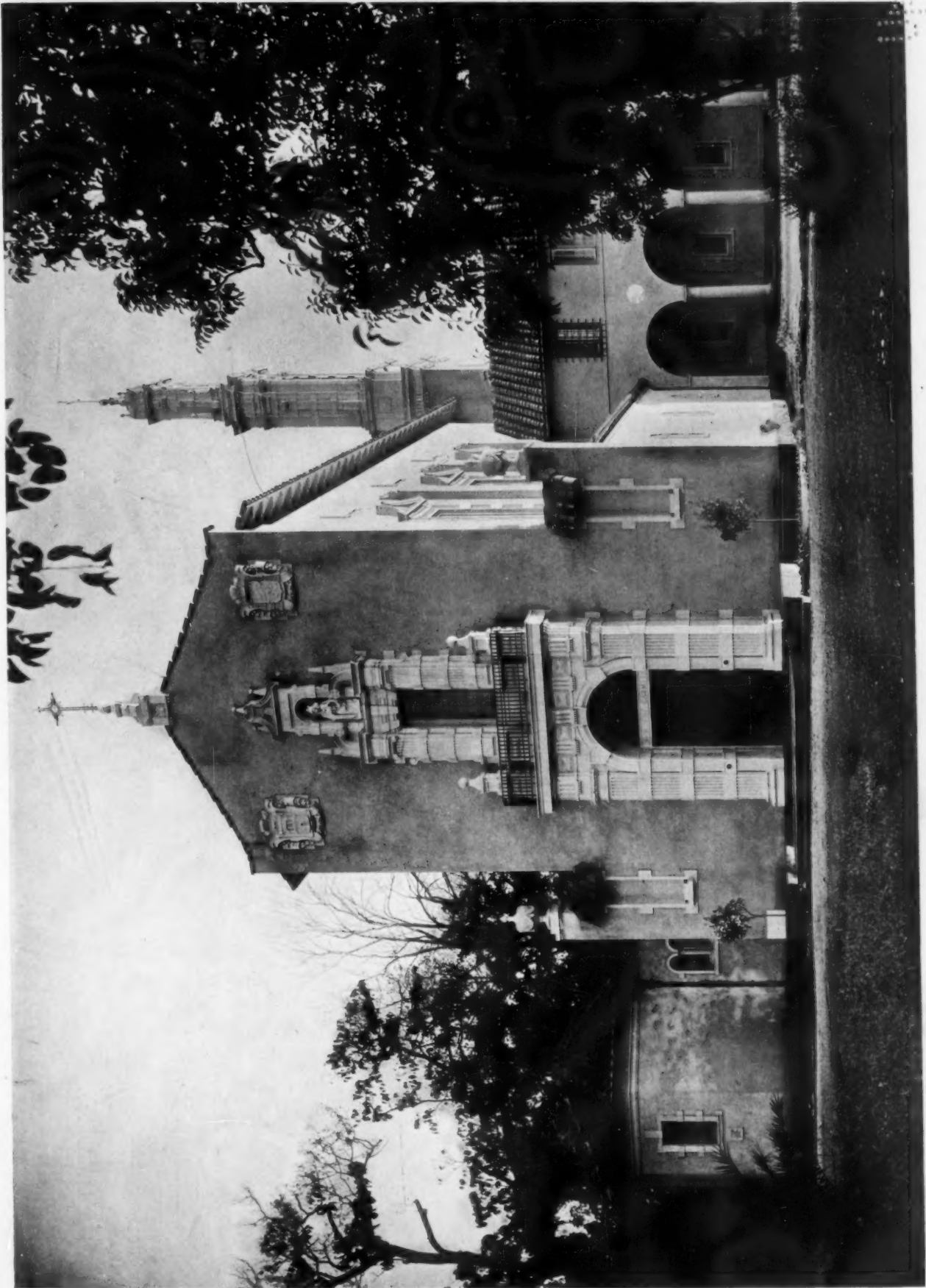


EAST END OF BANQUET ROOM



LIBRARY ON MEZZANINE FLOOR
HOTEL PENNSYLVANIA, NEW YORK CITY
McKIM, MEAD & WHITE, ARCHITECTS

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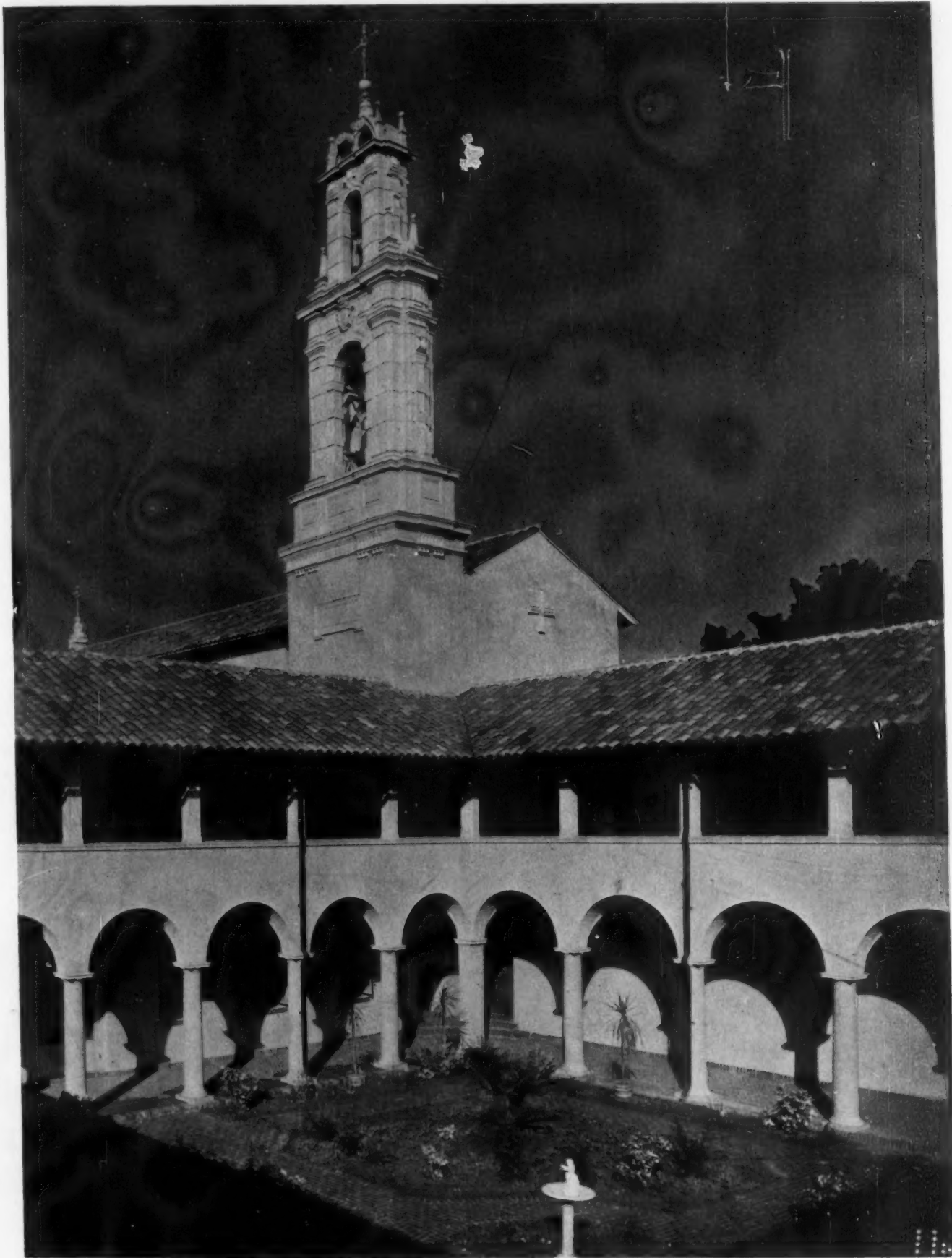
GENERAL VIEW SHOWING CHAPEL FACADE
CARMELITE CONVENT, SANTA CLARA, CALIFORNIA
MAGINNIS & WALSH, ARCHITECTS

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SIDE VIEW OF CHAPEL AND CHOIR WINGS
CARMELITE CONVENT, SANTA CLARA, CALIFORNIA
MAGINNIS & WALSH, ARCHITECTS

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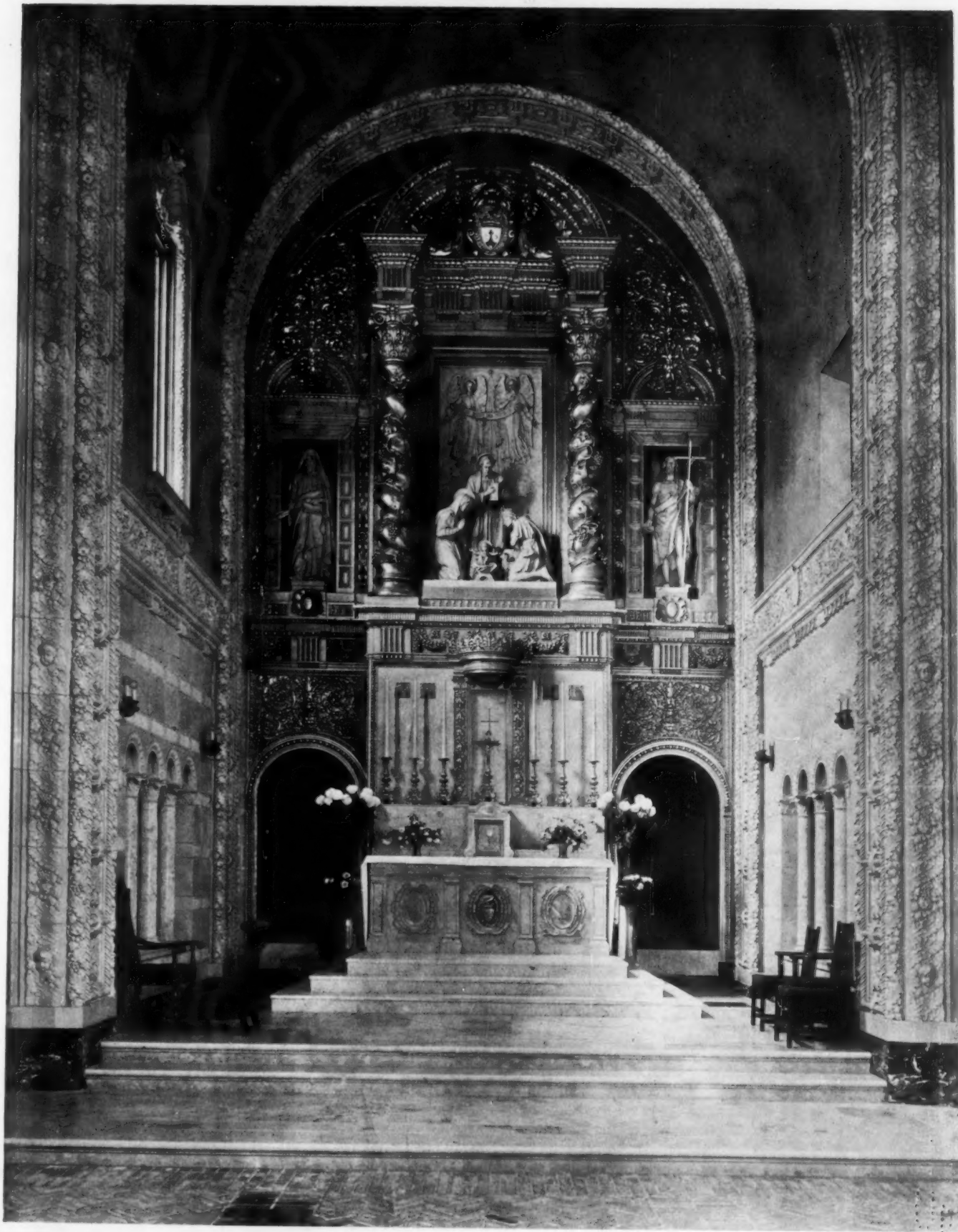
VIEW IN COURTYARD LOOKING TOWARD REAR OF CHAPEL
CARMELITE CONVENT, SANTA CLARA, CALIFORNIA
MAGINNIS & WALSH, ARCHITECTS

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DETAIL OF CHAPEL WINDOW AND CLOISTER ON MAIN FACADE
CARMELETTE CONVENT, SANTA CLARA, CALIFORNIA
MAGINNIS & WALSH, ARCHITECTS

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DETAIL OF SANCTUARY OF CHAPEL
CARMELITE CONVENT, SANTA CLARA, CALIFORNIA
MAGINNIS & WALSH, ARCHITECTS

24



NAVE OF CHAPEL LOOKING TOWARD ENTRANCE
CARMELITE CONVENT, SANTA CLARA, CALIFORNIA
MAGINNIS & WALSH, ARCHITECTS

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The Design and Decoration of the Public Rooms in Hotel Pennsylvania

By GERALD A. HOLMES

ARCHITECTS in approaching the problem of producing the public rooms of a great metropolitan hotel face a very pleasant task. They have the duty of providing the stage setting for some of the most important social functions in the life of the great city, as well as to impress and welcome the stranger within its gates. The term stage setting is used advisedly, for the audience is large and its opinions not to be despised. The opportunity for leading public taste is great, and the influence of the style of the great hostelrys of recent years has been widely felt. Architects are indeed fortunate when, as in this instance, the owners and operators are men of experience and taste, who hold the highest ambitions toward excellence. McKim, Mead & White, as architects of the Hotel Pennsylvania, were retained by the Pennsylvania Terminal Real Estate Company, a subsidiary of the Pennsylvania Railroad Company, under the direct personal direction of Mr. Thomas W. Hulme, Real Estate Agent. Mr. Ellsworth M. Statler, President of the Hotels Statler Company, who are the lessees and operators, was in constant consultation with Mr. Hulme and the architects, and his opinions and ideas were of the utmost importance as a guide to the solution of the various problems.

The endeavor has been made to express in the public rooms of Hotel Pennsylvania a breadth and dignity consistent with the magnitude and importance of the operation, without sacrificing the intimate charm and good taste which the American public is so rapidly learning to demand in its own homes. While it is necessary to display to the guests of a great hotel a certain variety of treatment in the public rooms, it is important to harmonize the various effects so as not to produce a state of mental and spiritual indigestion. In Hotel Pennsylvania, taste and scale of detail and color have been most carefully studied with this idea of unity in mind. The classic architecture of the Italian Renaissance and its direct English derivatives have served as inspiration for the treatment of all these rooms. There has been a studious avoidance of the rathskeller type and the depressing magnificence of the French Eighteenth Century. The illustrations will tell the story that spacious, well proportioned and livable rooms have been produced.

To arrive at the result predicated at the beginning of the last paragraph, it is evident that the part color has to play is a vital one. The selection and combination of materials for decoration, lighting, furniture and draperies are as important as the proportion and

details of the design. The architects associated with themselves the eminent artist, Mr. Jules Guerin, to assist in the establishment and execution of a color scheme that should be distinguished and harmonious. By the medium of consultations between the architects, Mr. Guerin, and the decorators, who acted for the Hotels Statler Company by whom the furnishings were installed, a relation was assured between the architecture and the style and color of the furniture and draperies.

In regard to the materials that entered into the construction of the building, a few words of explanation may be appropriate. The great size of the spaces and the conditions of the markets in labor and materials due to war time, added to the fact that such a building must represent a strictly business investment, presented the chief difficulties to the architects in their work. As we all know, marble, cut stone, bronze, cabinet work and all carvings and wrought work come under the class of luxuries in these days. In Hotel Pennsylvania all these items were reduced to an absolute minimum and extensive use made of terra cotta, tiles, terrazzo, cast iron, artificial marble and stone, and the skill of the modeller and decorative painter were depended upon to a great degree for particular spots of interest.

In the main lobby and the various entrance halls terrazzo was chosen for the floors and for the treads and risers of stairs. The use of borders and dividing lines of mosaic and the laying of the terrazzo in squares and in the patterns of antique marble floors have served to redeem this material from its usual uninteresting qualities. For the terrazzo, Botticino marble aggregates of two sizes, light pink Tennessee and dark cedar Tennessee give four soft colors; the mosaics consist of alternate three-fourths inch squares of pink Tennessee and black marble. The main lobby and its branches, including the tea room and the promenades around it, are treated with a base one foot high of Hauteville marble. The main office and various other counters are of Botticino marble above the base. All the walls up to the ceiling under the mezzanine gallery and the columns and corner piers of the central colonnade are of artificial marblé, a material based on cement and marble dust, put in place either plastic or precast as the case required, and afterward worked to a polish by rubbing in the same way that real marble is finished. The character of the Botticino is imitated to a remarkable degree. By the use of the high central colonnade with mezzanine gallery and the metal and glass ceiling above, the effect of an open court is produced, which is designed to relieve the

feeling of oppression so often produced upon entering the ground floor of a solid mass of high building. A golden light floods the space from reflector units above the glass, and is supplemented by warmer and brighter colors in the lighting standards. The main color note of the rugs and upholstery on the lobby floor is red.

The tea room, while reminiscent of the English eighteenth century styles bears in its design and ornament a closer relation to Italian models. The openings are trimmed with painted woodwork, the walls, cornice and ceiling are of plaster. The color scheme is ivory and warm gray. A Chinese pattern rug in browns and blues is used, and the furniture is in blue and old ivory lacquer with Chinese suggestion in its lines. The lights are distinctly warmer in color

and lower in power than in the lobby, helping to close in and feature the room from the surrounding spaces.

The great size of the main dining room, sixty by one hundred forty-two feet, creates of itself a fine impression. The composition, with plain walls of artificial stone ashlar and a richly decorated beamed ceiling, is Italian. The relative lowness of the ceiling, twenty-two feet, and its enormous span presented a serious coloring problem. By the use of a surprisingly light general tone value and a careful interweaving of soft colors the apparent height of the room is increased. The plaster beamed ceiling is treated as old weathered wood, gray brown in tone, with modelled and stenciled ornament painted in reds, blues, yellows and greens. The spaces between the beams are colored a dull blue. In this room the problem of a serviceable

material for base course and window and door trims was solved by the use of terra cotta of a slightly darker color than the walls, with a faience glaze. The fountain and niche are also of terra cotta, while the columns are of artificial marble. The lighting fixtures of polychrome metal with parchment shades were depended upon to give interest to the plain wall surfaces. The draperies are of a blue and yellow striped silk. The chairs are a reproduction of an old Venetian walnut piece, the upholstery of blue figured damask. The general color scheme of the room is reflected in the tapestry on the west wall, which is a fine Flemish piece in which blues, greens, dull yellows and browns predominate. The carpet has a Chinese pattern with blue and rose figures on a dull yellow ground. The room is floored in a dark gray-green terrazzo with a central portion in wood strips for dancing.

The grill room in the basement is designed to give the feeling of the grotto gardens of an Italian villa. The floor is of light red tiles. Terra cotta was again resorted to for the wain-



View of Ballroom Foyer, Hotel Pennsylvania

scot and for the corners of wall pilasters and free standing piers. The color is a light gray buff with dull glaze. The piers and columns and wall arcades are executed in sgraffito in the typical dull earth-red ground with ornament in light buff. A lighter red than the sgraffito is used in the stucco wall panels. A note of gay blue-green is introduced in the sash of the screens and mirrored windows and on the iron railing. The plaster ceiling is simply treated in tones of old ivory, with a simple pattern of orange leaves and fruit in the central portion. The lighting fixtures are covered with orange colored silk, giving a warm and pleasing light.

The entertaining suite on the ballroom floor consists of an elevator lobby and corridor in artificial stone, a grand foyer and two parlors leading to the ballroom on the south side of the building; and a smaller foyer and banquet room and a suite of three private dining rooms on the north.

The grand foyer and parlors are Italian in feeling, with simply treated walls of artificial stone and sand finish plaster, and rich beamed and coffered ceilings in which extensive use of color has been made, afterward glazed and antiqued to produce a soft effect. In the ballroom the decorative interest is centered in the vaulted ceiling, in which a good deal of color has been used in picking out the modelled ornament, and a unifying wash of a warm yet delicate rosy color applied to the whole. As to materials, the ballroom has a herringbone oak strip dance floor, with terrazzo under the galleries. The walls, piers and ceiling are of plaster with painted wood corners and trim and composition ornament. In the chandeliers, silk has been used to great advantage in combination with crystal.

The banquet room is paneled to the ceiling in white oak with a fumed and waxed finish kept rather light



View of Parlor on Ballroom Floor, Hotel Pennsylvania

and gray in color. The draperies and carpets are red. In the private dining rooms, the feeling of paneled Georgian rooms is obtained by applying wood pilasters, trim and panel moulds to plaster walls. The walls are painted a light green, and the draperies are printed linens in which green and rose figure on a light ground.

On the first floor, at either side of the main entrance are the café and the bar. The former is a Philadelphia Colonial room in style, reminding the visitor of the origin and antecedents of the owners. In scale, it compares closely with the work at Independence Hall, although for practical reasons the material chosen for the paneling is a natural finished chestnut, gray-brown in color, producing an effect more often met with in the Colonial rooms of the south than in this section of the country. An open

grill is framed with hand-painted tiles, designed and made especially for the place. The draperies are of an English printed linen with gay-colored flower pattern on light ground. The floor and base are of the Welsh heatherbrown quarry tiles. The lighting fixtures of pewter and brass are in harmony with the style.

The barroom has a very interesting floor of small mosaic tiles in varying shades of red, with faience inserts. There is a tile base, oak paneled wainscot, and artificial travertine walls and piers. The vaulted ceiling is of sand-finished plaster. The leaded glass windows are draped with a rich red and blue stuff of Italian design and with valances embroidered with Italian ornament.

The library is a study in the Jacobean style. The oak paneling has been made quite a dark brown in color to afford a restful contrast to the adjacent lobby galleries. The draperies are English embroidered linens. The floor of this room, as well as of all spaces which could be considered as permanently carpeted, is of cement with carpet nailing strips against the base.

A cardinal policy with the operators is their

desire for flexibility in regard to use, furnishing, and decoration of spaces. This desire has worked in very well with the ideas of the owners and architects as to simplicity of architectural composition and detail.

For the decoration of the typical bedrooms, wood mouldings were applied to the plaster walls to form panels, the whole being painted in lead and oil colors. Three slightly different color schemes, all quite light in tone, were adopted, and draperies and upholstery studied for each. All ceilings are furred and have simple plaster cornices. An entire floor is treated with one color scheme, with the exception of a few parlors and special suites for which particular treatment was worked out. A combination buck, frame and two-inch trim of stamped steel is used for all bedroom door openings, and a steel base five inches high in the rooms. The corridors have a base and floor border of polished white Carrara glass. Steel double hung windows are used throughout and all window trim is eliminated, the plaster being returned against the box at jambs and head, while a metal sill with nosing is part of the window construction.



Suite of Private Dining Rooms, Hotel Pennsylvania
McKim, Mead & White, Architects

Buildings for the Modern Farm

PART II. PLANNING OF MINOR BUILDINGS

Concluding Paper

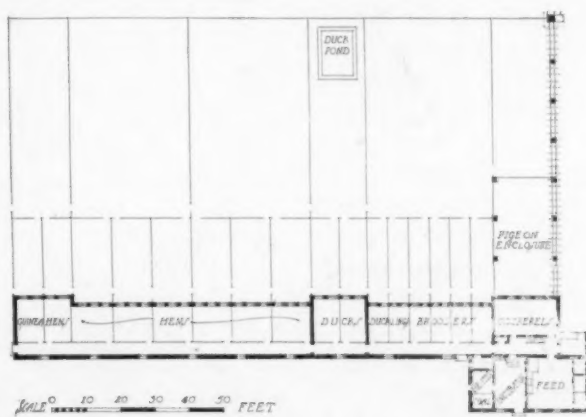
By ELISHA HARRIS JANES

UNTIL quite recently chickens were housed in almost any type of building and placed in any out-of-sight place as long as they had some sort of scratching space, if only the neighbor's garden. They are now treated to the latest sanitary housing, even to fireproof houses. Often they are featured in the farm group as in the Warburg buildings at White Plains and others illustrated in the previous issue. There are two general types which have been successfully used, each having its advocates. The first one, a semi-monitor type, throws the sunlight farther back into the building, thus keeping the building much sweeter and more sanitary; its objections are expense and the inconvenience of the low head room in the front portion. The second is the more common type and is used in the James farm group at Newport, R. I. One section illustrated is of the chicken houses on the farm of Jacob Schiff, Esq., at Redbank, N. J., and shows the brooder portion, which

is of special interest in the arrangement of heating the brooder by steam. In either type, care must be taken not to have the interior so large that the chickens cannot warm themselves. Chickens have great body warmth, so much so that it is practical to leave the whole front open if the building is thoroughly dry and they can get out of a draught. Some advise a few coils to take off the chill in severe weather, but regulation of the heat is difficult and apt to be disastrous to the fowl.

Nests should be accessible but darkened, and they are generally placed under the dropping board.

While a separate passage is not necessary, it is a great convenience, especially on the private farm. It should be arranged so that the dropping board may be cleaned and the nests reached without going into the pens. The front of the building is best arranged with part glass and part muslin. The latter permits the foul air to escape, yet retains the warmth and allows



Floor Plan of Chicken Houses Below



Chicken Houses on the Estate of Felix M. Warburg, White Plains, N. Y.
Elisha Harris Janes, Architect

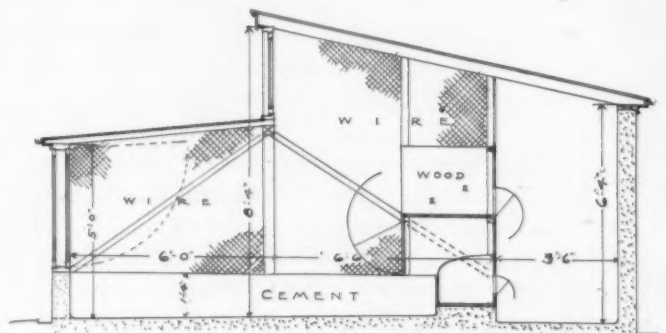
the light to enter. Some are arranged with double doors of glass and muslin, the glass to be closed on severe nights. When the glass only is used, it is best to hinge the sash at the top and have a wire screen door hinged at the sides. A curtain hung in front of the roosts assists in keeping the fowl warm. The building also should be divided into units with solid partitions to prevent draughts. The outside runs should be rat-proof: one method of effecting which is illustrated. It is also well to divide the runs so that the chickens may be confined to a small or large one.

In the chicken house on the James farm an interesting variation occurs because of the contour of the land. The building was placed in the middle of the clearing and runs built front and rear of it. They are of different levels and connected by sloping tunnels under the passage. In this plan, the killing, testing, etc., are done in the cellar, and the dove cote is located overhead.

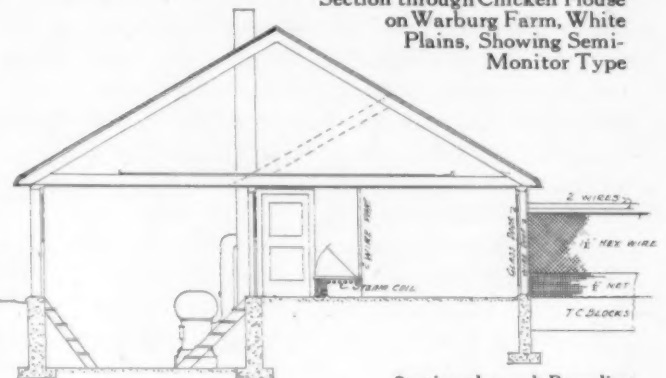
Housing for ducks is somewhat similar to that for chickens. The ducklings are kept warm longer than the chicks and after being transferred to the cool brooder they are allowed to run free by water. They stay out of doors much more than the chickens and on some farms are kept out all the time except through the winter months. The floors of the house are preferably of sand, and part bedded in straw or salt hay.

Turkeys thrive better in small colony houses and at a distance from the chickens, as some diseases, slight in chickens, are fatal in turkeys. They also need much larger runs than the chickens.

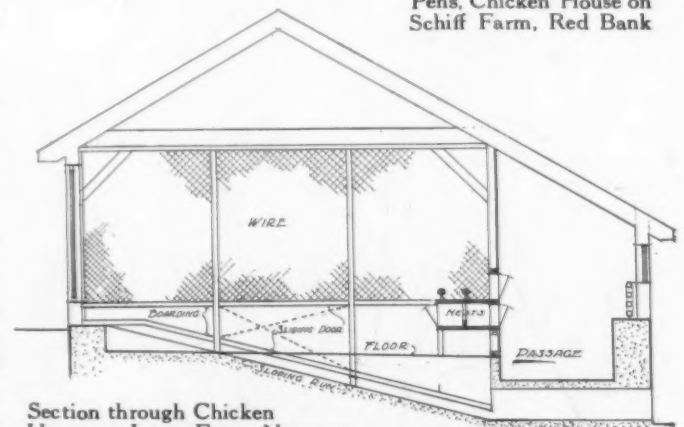
Sheep are becoming more popular as part of the live stock on small farms, and some special features are desirable in the building that accommodates them. They are valuable not only for food and wool, but because they are the best land fertilizers and most useful in keeping hills closely cropped of grass. Their principal enemy is the dog, and protection from him is very necessary.



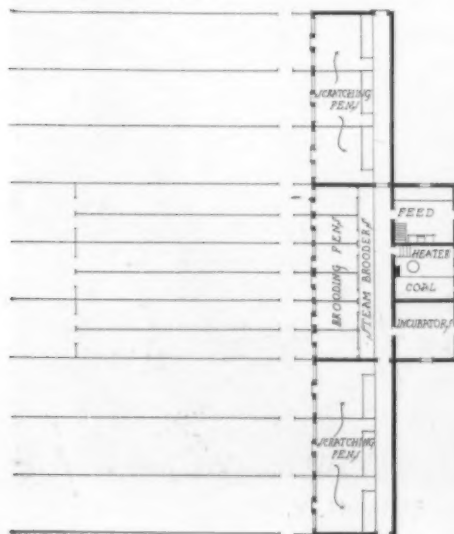
Section through Chicken House on Warburg Farm, White Plains, Showing Semi-Monitor Type



Section through Brooding Pens, Chicken House on Schiff Farm, Red Bank



Section through Chicken House on James Farm, Newport, Showing Sloping Run connecting Front and Rear Yards

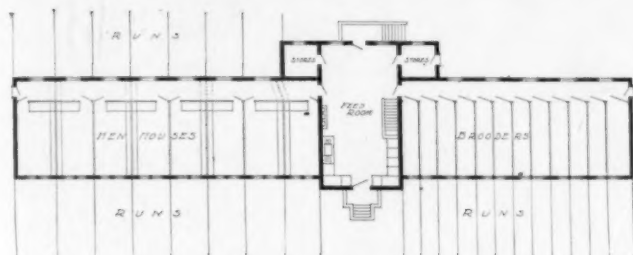


Floor Plan and Exterior View, Chicken Houses, Estate of Jacob H. Schiff, Esq., Red Bank, N. J.
Elisha Harris Jones, Architect

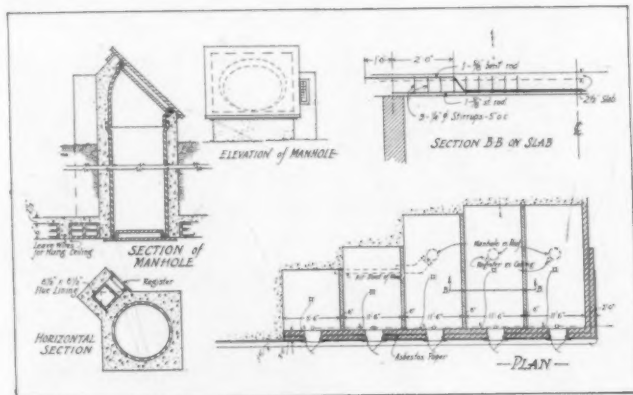




Chicken House, Estate of Arthur Curtiss James, Newport, R. I.



Floor Plan of Chicken House Above
Grosvenor Atterbury, Architect



Details of Root Cellars on Estate of J. C. Baldwin, Jr.
Mt. Kisco, New York
Benjamin W. Morris, Architect

These are built into a bank and extend as far as a rock formation permits. Outside walls are double hollow tile



Root Cellar, Estate of Felix M. Warburg
Elisha Harris Janes, Architect

The type of building popular with sheep breeders is a large square structure housing from 300 to 1000 animals, each of the four sides having windows and the upper part devoted to storage of hay and feed. For the private owner a different type is advisable, one giving a greater proportion of sunlight. Sheep need ventilation perhaps more than any other of the domestic animals, and when their heavy coat of wool is considered the reason is obvious.

The fold had best be arranged so that the wall toward the prevailing winter storms may be closed through the winter but opened in the summer to get a draught. The south side could even be left open, save for slats to keep the sheep in or out. If it is closed there should be plenty of windows and wide doors, as sheep in passing through always crowd each other. The doors may be arranged as Dutch doors or slat gates or both. The best floor for the fold is of earth, well drained and built up sufficiently to insure dryness at all times. Around the feeding and water troughs there should be concrete pitched to a drain. Sheep need plenty of clean water, running if possible. The fold should be divided, as ewes about to lamb should be fed carefully, and the yearling pregnant ewes, the ewe lamb for breeding and the lambs for market may need to be treated somewhat differently. The feeding is from long racks, preferably of a kind allowing them to put their heads between wide slats. A "creep" for the young lambs to reach tempting food is useful.

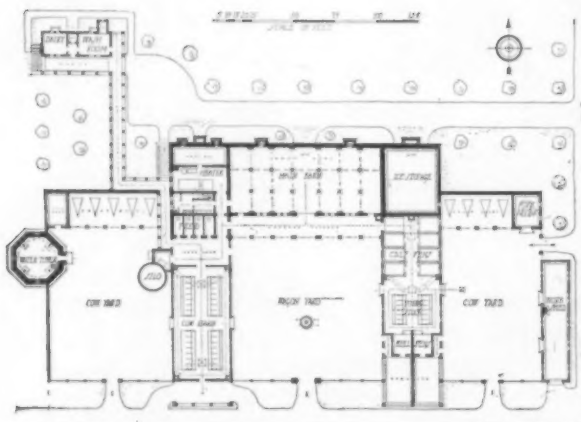
The lambing pens should be about four by five feet and may be portable. Heat is needed for the lambing ewes as the young lambs are very tender and often need nursing; for this reason also, the shepherd's room should be close by. The yard should be to the south and here again outside troughs and feed floors are a great convenience. To keep the animals in best condition the herd should be dipped annually, at least,



An Old Virginia Ice House
Showing Interesting Stunted Silo Type



VIEW FROM DRIVE SHOWING COW BARN



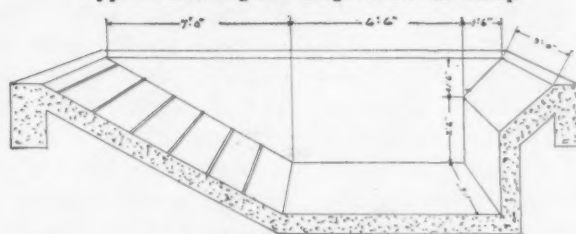
VIEW FROM NORTHWEST SHOWING DAIRY AND PASSAGE TO COW BARN
 FARM BUILDINGS OF W. B. OSGOOD FIELD, ESQ., LENOX, MASS.
 JOHN C. GREENLEAF, ARCHITECT

and any new animals as soon as they are received. A dipping vat similar to the one shown in the diagram is best for this, also for washing the sheep before shearing. As roots constitute a valuable part of their food, a root cellar is almost a necessity.

Buildings for the housing of pigs have seen greater changes than other farm buildings. We all remember the pigsty which caused us to wonder how an animal could live under such filth and odors, wallow in the swill of the household poured into his trough and yet produce such fine food. With the slogan "a pig a man" this has greatly changed, and with good care the resulting number of animals is about doubled. They are now housed in sanitary buildings, often of cement and arranged to be flushed out. Pigs need more care and protection from heat and cold than any of the other animals, also sanitation and light; great care must, therefore, be taken that the maximum quantity of sun reaches the interior of their houses to purify them. Some heat should be provided for severe weather as the animal has little natural covering to protect him. The hog house should be on a well drained site. The beds should be of straw on a wood floor with a rail around the pen eight inches from the wall and eight inches high to prevent the sow from lying on and smothering the young pigs. The inside pens should connect with the outside ones. The latter may be divided or combined and arranged with some shade. A canvas curtain between the outer and inner retains the heat in winter. A variation to the plan of the building at Cold Spring, N. Y., is to have the feeding troughs in the pig yard. As most of the odors come from the food, this has the advantage of keeping them out of the building. Around the trough may be arranged a concrete feeding floor. Contrary to belief, a pig likes to wallow in water and if he cannot, will do so in mud. It is therefore well to arrange a wallow pit. It consists of a shallow pond about twelve feet by eight feet and eighteen inches deep, sloping at one end or it may be arranged by having the sides of the pen eight inches high and provided with a drain. A dipping vat is also necessary if there are many animals. It consists of a long, narrow concrete



Typical Building for Large Herds of Sheep

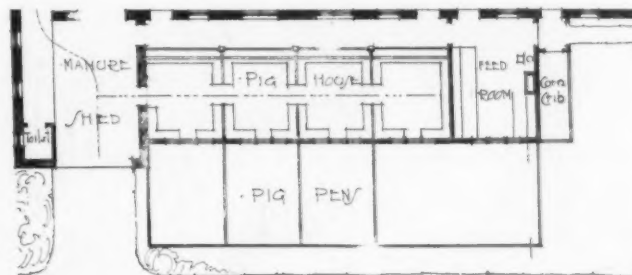


Detail of Dipping Vat for Sheep

bath, waterproofed, with sloping ends, the one the animals walk into being of a sudden pitch and the other end a gradual slope with cleats. There should be a drain and an enclosure at each end. Some experts advise having the manure pit near if not adjoining the runs, as the pigs enjoy stirring around in it and their doing so is good for the manure.

The care and disposal of manure is always a vexing problem, and each farmer has his idea as to what should or should not be done with it and its liquid.

Many superintendents will not take the trouble to use the fluid collected and insist on its being disposed of with the sewage, thus causing another problem. It is too valuable to be thrown away and should be stored, as it cannot be distributed at all times on the ground. The location of the manure pit depends on whether you have pigs and wish them to furrow in



Floor Plan of Hog House Below



[Piggery, Farm of Messrs. L. and R. W. Johnson, Croyden, Pa.
Duhring, Okie & Ziegler, Architects

the manure. The simplest method is to spread it over a concrete basin with a drain leading to a cess-pool or container. The rains will keep it moist, although there is the danger that it will get either too wet or dry. A better way is to have an open shed with the litter trolley running to it. The liquid in either case may be drained to a sump pit or absorbed by the use of sawdust and used in that form.

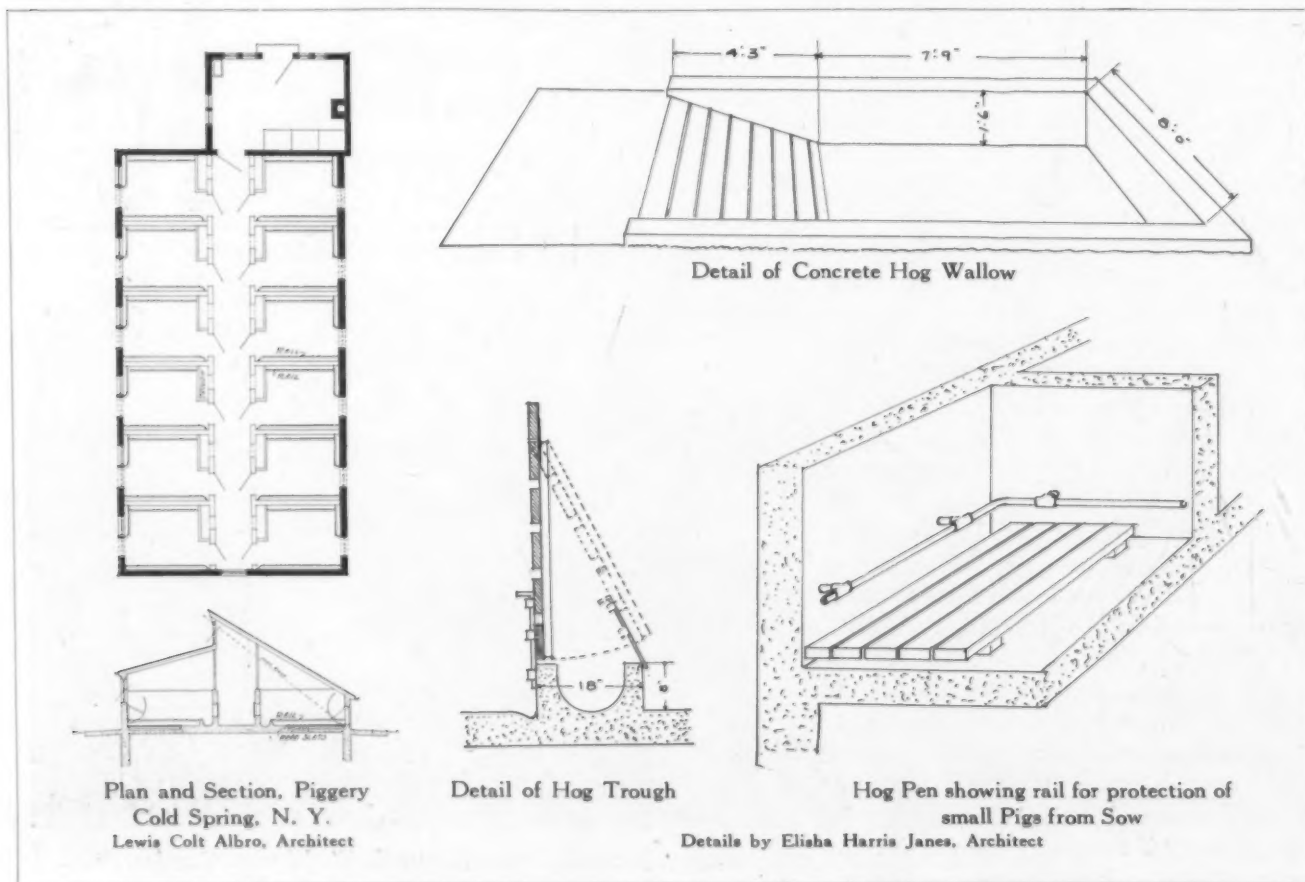
The root cellar may be either under one of the buildings or, as is more popular, built into a bank. The walls should be waterproofed and ventilation arranged to prevent any dampness or condensation. A dirt floor is preferable but it must be well drained. After the walls are built, covering them with earth and sod helps to keep an even temperature. If a free standing building is used the walls and ceiling should be insulated with cork and air spaces. The racks and shelves depend on what vegetables are stored.

Similar buildings are used for housing bees during the winter months. It is one of the best methods of maintaining the even temperature which is necessary for the bees; but special care should be taken that the building is well drained and kept dry.

Few attempts are ever made to make the ice house attractive; the advice is generally to hide it in the woods. A little care and thought can make even this attractive. The early forms of small ice houses were built all or in part below ground. With our effective methods of insulation, this is no longer necessary, so

that while it is limited somewhat in shape, it may be made sightly. Some have been built in the form of a stunted silo; others are combined with the milk house or arranged with cold storage rooms. This latter method is very valuable as the necessity of cold storage is becoming more and more apparent. This method is, however, more wasteful of ice, as there is no way of saving the supply when only a small amount of refrigeration is needed. The few important points are to have some ventilation provided under the roof and above the ice, otherwise the moisture will be retained and the ice rot. Too much care cannot be used in the insulation of the walls. Adequate drainage should be provided, with a trapped drain protected from clogging. The packing of the ice is a very important factor; there should be about twelve inches of sawdust on the outside of the ice and on top of the last layer, but nothing between the blocks. In capacity fifty cubic feet of storage space is required for a ton of ice; five tons are enough for household use and two thousand pounds of ice per cow is needed for cooling the milk and cream.

The list published in the previous number shows many other small buildings but space prevents each one being taken up in detail. But from the illustrations and descriptions, the architect who has not worked on farm buildings will readily see what a field there is offered him to improve the countryside and what interesting problems arise.



The Carmelite Convent, Santa Clara, California

MAGINNIS & WALSH, ARCHITECTS

TO express fittingly in terms of architecture the spirit of the convent, is to engage the most picturesque resources of design. A community of women, whose lives are wholly consecrated to religion, represents a domesticity which calls for unique and delicate expression, with implications both of the church and of the home. We find very many examples of the artistic romance of convent architecture in Europe, but the typical convent of America has little or nothing of this character. It is, on the contrary, singularly and perversely, a mere cube of masonry whose phlegmatic bulk negatives at once the idea of spirituality and of femininity, and demonstrates that this particular problem has not yet received from the architect the thoughtful study it deserves.

The new monastery of the Carmelites at Santa Clara, California, is the result of a conscious effort to find a fitting architectural solution. The architects were primarily fortunate in the scene of their effort, and coupled with the traditions of the Carmelite order, associated as they intimately are with the Renaissance of Spain, the work essayed in the spirit of that period

held implications of singular promise. There has been no attempt, however, to adhere literally to any phase of this tradition, rather has it been the aim to interpret the dual character of the convent in the light of its own traditions and the setting in which it is located.

The obvious importance of the chapel, as the vital center of the community, had its own suggestion for the architects. A note of responsible Renaissance character has been introduced here which is the only portion of the Carmelite institution where architectural ornamentation is permitted. The right placing of this chapel is indeed a determining principle in the design, because it must serve at once both the Community and a considerable public, which is attracted by the spiritual ideals of the order. Something of a hint may be given here that the Carmelites are a cloistered order of an unusual austerity of habit. The hours not devoted to domestic duty are given to prayer, contemplation and spiritual exercise.

The Community have a personal communication with the public by voice only, the sisters not being visible. This is accomplished by what is known as the "speak-room," which consists of two apartments



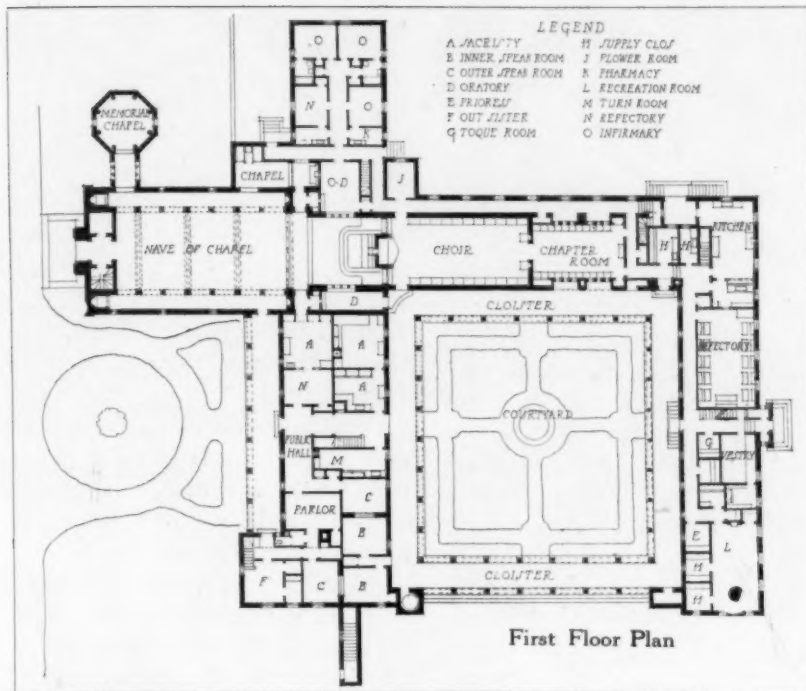
View of Nuns' Choir, Looking Toward Altar



VIEW SHOWING CLOISTER CLOSING QUADRANGLE



VIEW LOOKING TOWARD INFIRMARY WING
CARMELITE CONVENT, SANTA CLARA, CALIFORNIA
MAGINNIS & WALSH, ARCHITECTS



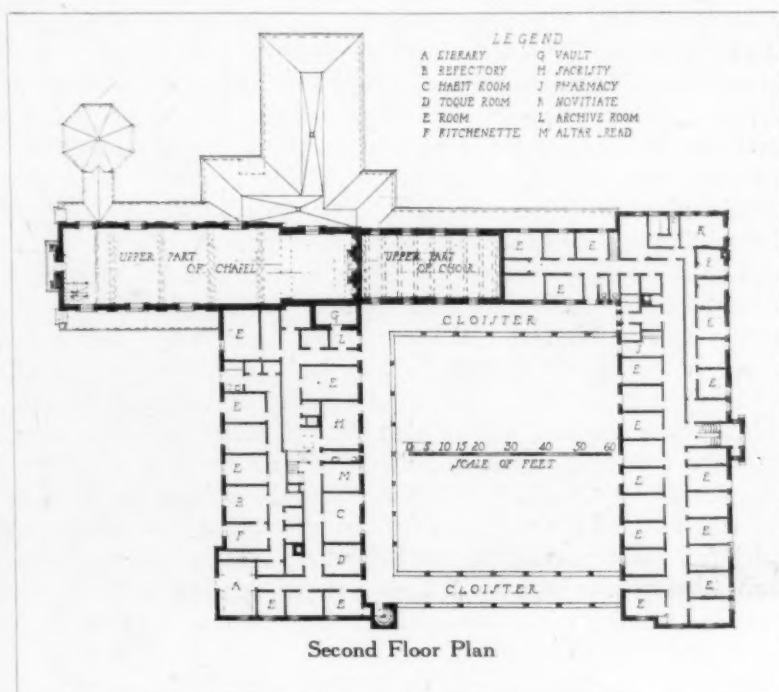
(an outer and an inner speak-room) separated by a fixed grille of metal, veiled on the inner side. The "outer speak-rooms" are directly accessible from the public lobby of the convent. In this lobby, conspicuously placed, is the typical Carmelite institution, known as the "turn." A symbol of the dependence of Carmel on the charity of the world (a dependence which is inflexibly of the rule) the "turn" is a revolving cylinder of wood, furnished with shelves, on which alms, in food or money, may be conveyed to the Community. Other than as has been stated, the organism of the Carmelite Convent is not affected by the public relation in any phase of its existence.

In the general characteristics of the building, as they disclose themselves externally, there is indicated clearly the architects' intention to achieve a spreading composition and a general picturesqueness of effect. The chapel dominates the whole architectural composition and is approached by a straight avenue which is bounded by one of the claustral walls. This interesting accent has been made possible because of the salient placing of the chapel, standing, as it does, almost free of the quadrangular plan. By way of interesting reminiscence, certain items of the external design, such as the unique belfry, are reproduced from the noted Carmelite Convent at Avila, Spain. The external effect in point of color depends on the highly interesting tile roofs, of beautiful and varied tones, which combine to give an effect of grayish violet at some dis-

tance. The walls are a very delicate shade of pink, the trimmings of a light buff shade of terra cotta thinly enameled,—colors that provide an ideal foil to the brilliant green foliage and the blue skies of California.

The chapel, which is approached through a small vestibule, is eighty-seven feet long and thirty-five feet wide, including the side aisles. A series of alternating piers and columns support the lofty clerestory. The roof construction is frankly expressed in interesting truss forms of wood. The floor of the chapel is paved with brick, laid in herring-bone fashion. The sanctuary is deep set and is distinguished by a great gilded reredos, incorporated in the design of which is a Nativity group, flanked by standing figures of Isaiah and St. John the Baptist in niches. The two great columns which form an important

feature of the reredos were copied from small antique examples in the possession of Senator Phelan at Montalvo. The altar proper is rendered in Botticino marble with inlays of gilded carving; the floor of the Sanctuary is paved with marble tiles. Here again the color has been most carefully studied for a rich, though quiet and reserved effect. The walls are cream plaster, enriched with light buff terra cotta; the pavement is dull red, and the open wood ceiling slightly mellowed with stain. The reredos is luminous with a soft metallic luster which is the culminating color value in a progressive concentration





View of the Refectory

of richness leading in quiet gradations to the altar.

Connected with the main chapel, towards the east, is a small octagonal memorial chapel, sixteen feet in diameter, erected to the foundress. This is finished in Botticino marble, with a column at each of the angles supporting a low dome. On the axis facing the large chapel is the memorial altar of Siena and black Belgian marble. On the pavement, in front of this, is set a large memorial stone with bronze inlaid inscription.

On the east side of the main chapel and accessible from the bay nearest the sanctuary, is the Lady Chapel. This has been planned so that its altar may be approached by the priest without issuing from the main sanctuary, proper provision having been made at the same time for communicating oratories. Prominently placed in the Lady Chapel is a recessed confessional. The chapel is ceiled by a semicircular vault, Botticino marble lining the walls up to the spring of the arch.

The plan of the convent, as it is developed from the public portion of the institution, is comparatively intricate. In this connection it should be stated that the authorship of the plan is attributable very largely to the Community, and the architects have been impressed by the singular skill shown in its development. The convent is arranged to frame a patio, which is approximately eighty-nine feet square, in the center of which is placed a fountain of terra cotta, surmounted by a little figure of the Infant Saviour. The four sides of the patio are defined by colonnades which frame the paved walks and cloister garden, the planting of which, however, has not yet progressed to the point necessary for its proper effect. At one end of the cloister closing the quadrangle is provided a tourelle with winding stairs to the look-out command-

ing a view of the distant hills.

The wing to the north is devoted to the public lobby, parlor, and inner and outer speak-rooms, and at the point of junction with the chapel, to the sacristies. Opposite this, to the south and across the patio, is the domestic wing. At its east end this is connected with the rear of the chapel by the wing which is devoted to the Choir and Chapter Room, related laterally to the axis of the main chapel. On the east side is a short pavilion given over to the Infirmary; composed of two wards, a refectory and a room for the infirmarian.

The Choir is a paved room of long, interesting proportions, and in its quiet color scheme and dignity in the use of materials which

approach austerity, it is a particularly fine example of architectural expression. The semicircular vault is of white plaster pierced by high windows that effectively light the apartment. The walls are lined with light brick of warm buff tones, harmonizing with the pavement of dull red brick. The choir benches are placed longitudinally, facing each other in the customary way. The wood of these benches and of the handsome altar set against the south wall, is gum in its rich natural color. In front of the benches is a strip of brown cork tile. The grilles on either side of the altar serve to bring the Community into relation with the public service in the chapel. In a panel overhead is set a sculpture composition in very slight relief of St. John of the Cross and St. Theresa.

The Chapter Room, which opens by means of double doors from the Choir, is furnished with an altar for relics, placed against the south wall and surmounted by a large crucifix. Seats are arranged along the wall as in the Choir.

As an architectural composition the building possesses singular charm. It is carried out to the smallest detail in a manner eminently in keeping with its use and in harmony with the traditions of the architectural style which the old Mission Fathers developed with such good grace to fit in with the California landscape. It is, in its simple and gracious character, like one of those charming bits of architecture which many centuries of culture have generously bestowed on European soil, but which are too rarely produced on this side of the Atlantic because we do not devote the same degree of care in interpreting the spirit of a building's use in its architectural forms. The Carmelite Convent is especially noteworthy for this quality and it should exert a wide influence on future buildings of its type.



Model for Norfolk County Tuberculosis Hospital, Braintree, Mass.

Harold Field Kellogg, Architect

The Model for Architectural Representation

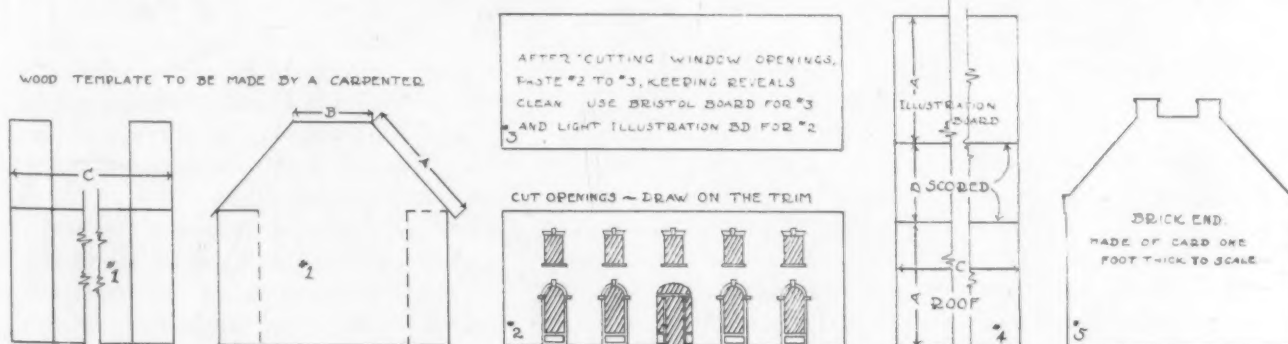
By EDWIN S. PARKER

IT would be with a sense of acute surprise and disbelief if we were to discover that some friend, apparently our equal in every respect, should prove to be unable to read or write. We would find it difficult to believe that a process so simple and commonplace should be to him a mystery and a closed book. A gulf would be opened between us, but we could easily restore understanding by resorting to intercourse entirely by speech. We would talk, not write to him, and there would be only momentary estrangement.

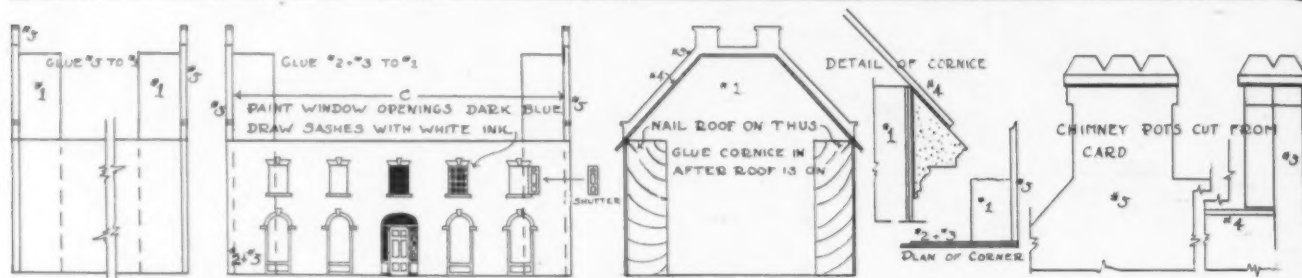
It is with an equal sense of surprise and disbelief that the architect discovers that a drawing which to him obviously represents an object in three dimensions, is to his client merely a series of lines, representing nothing. It is difficult for him to believe that so simple a representation should be unintelligible to another, and there is opened between them a gulf, which, unlike the other, cannot be bridged in any simple manner, and understanding, so necessary to business intercourse, can only be attained by round-about methods. The client desires, most naturally, to see what he is getting, and the drawings convey in many cases practically no idea of an actual building.

A perspective sketch does better, but this is unsatisfactory, for it gives only one point of view and is still merely a picture, embellished more or less with fictitious landscape and surroundings which give it the appearance of an artistic unreality, rather than a concrete representation of what the building is to be.

There is a need, then, to find some means of giving directly to the client a concrete idea of his future building which shall be truth-telling, not dependent upon cleverness of line and color to give an effect of reality; and which shall not deceive the client by beauties which are entirely foreign to the architectural features; it must, in short, be an honest and obvious representation of the building as it is actually to be built. And the model best fulfills these requirements. It is, first of all, concrete, is in three dimensions, can be viewed from all angles and distances, and can be handled. It is honest, in that it can be seen for what it is, and is not falsely enhanced by a fairyland of landscape and sky. The reduction in scale, practically the same in both cases, is as easily read off from the model as from the perspective; and the construction is so simple that any draftsman with an ordinary building sense can easily and successfully



Preliminary Stages in Model Making with Cut Facades and Blocking



Rendered Front and Treatment of Main Details

make it. For these reasons the model is the ideal means of architectural representation.

Besides these points there is another — defects of design which do not show in a drawing or perspective stand out glaringly in a model, and by assembling and changing the parts of a model the design itself can be studied to great advantage. Dormers can be made to size, moved about on the roof till their best location is found, and then glued in place. Elevations can be changed at will, and roofs can be tried on as one would hats in a shop.

This aspect of the value of a model needs no great championing, for every one will admit that there is no such satisfactory way of studying design as by this method. But they will add further that it is, of course, too expensive to be practical and is really only for a fad or for very important projects which will justify a large outlay in the study of their design. The cost, they will say, is in most cases prohibitive.

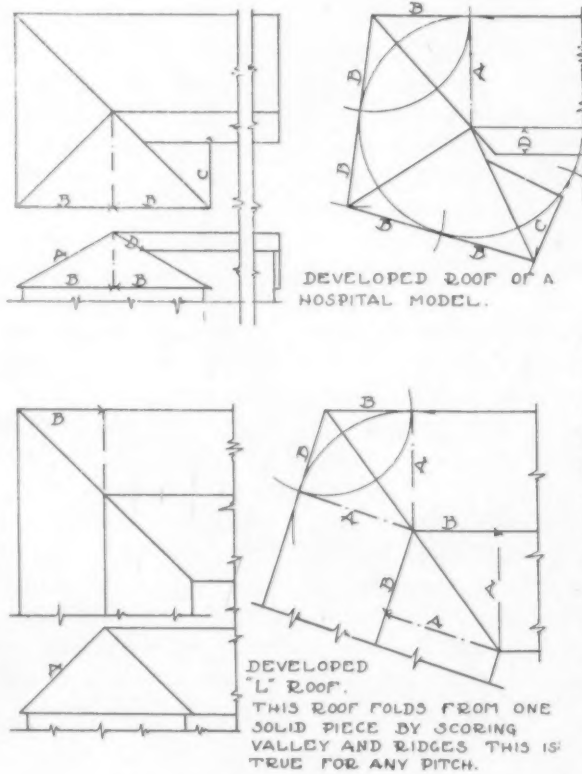
With very important and elaborate buildings the model is necessary regardless of cost. The drawings which won the competition for the New York Court House were made from a model, and it was in plastic, tangible, three dimensions that the design was studied

and brought to perfection. Similarly, the nave of the Cathedral of Saint John the Divine was studied in a model, and this model has itself won considerable prominence. But in these cases the outlay is justified by the cost of the building, which allows a large sum for this very study. When we come, however, to houses or small public buildings, the case is different. Six per cent of a million dollars, more or less, gives a large fund for working out design, but six per cent of \$5000 does not justify a model which costs even \$300.

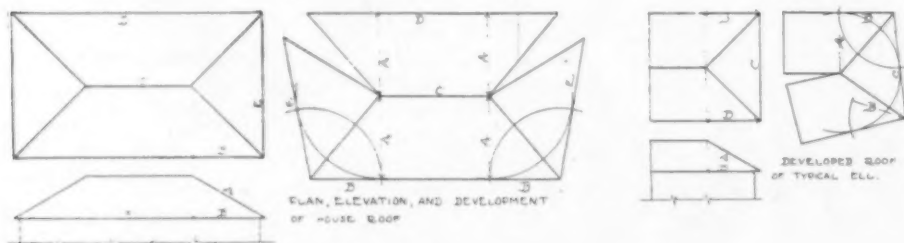
This is a different case, requiring another solution.

There are few clients who would not be willing to pay part toward a model of moderate cost, for that part would be, in the first place, quite small, and they would have a house in miniature which they could touch and handle and understand concretely. It is worth something for a man to see just what he is buying, and the problem here is not the making of a model, but the making of a model which shall pay, whose cost will be offset partly by the cost of the drawings which would otherwise have to be made for study and partly by the mutual satisfaction of client and architect. It must be made simply, eliminating detail as the Impressionist eliminates it from his landscape and yet like the Impressionist's work, it must retain all that is really significant and vital *en masse* for the building.

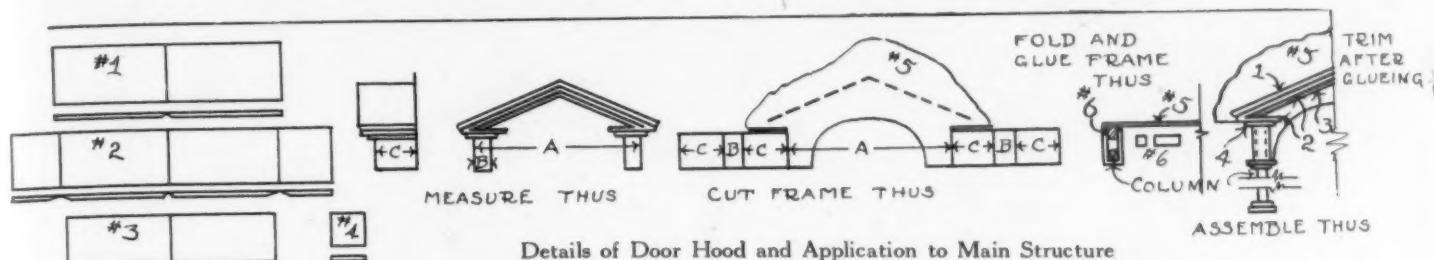
The difficulty of making a model of this kind is mostly in anticipation: do the first step first (and it is always simple) and each succeeding step in its turn; be patient



Example of Roof Development



Showing Steps in Construction of Pitches

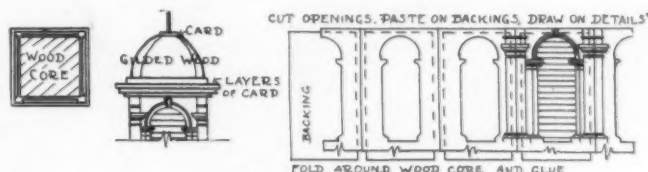
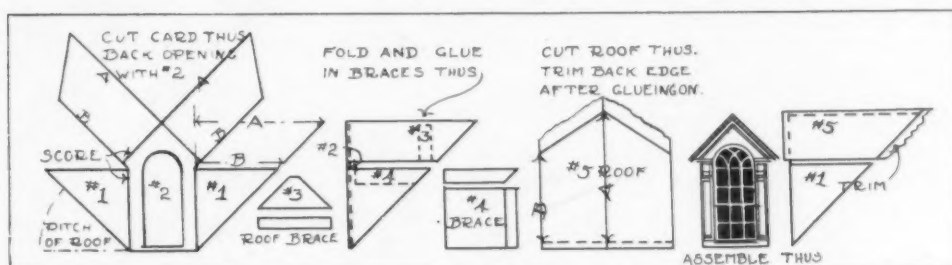


with the disproportion between the detail and the time it takes to build it, and slowly but surely the model takes shape and is complete. Patience with small details is a great factor and yet the total time consumed will not be found to be great. But it must be kept simple!

Let this, then, be the first rule: Limit the number of pieces which go to make up the model: do not put on rafter-ends or any attached detail, but cut all that you can in one large piece and either draw on the rest, or leave it out altogether. And the second rule is this: do not make members of many pieces which can be folded from one. The folded one is more sure to be accurate, is stronger, takes less time to make, and by simple developments, a quite complex member can be easily folded into shape ready for gluing. In instances, where a building is made up of several units, they are made separately, and after assembling screwed to one board from below.

The scale at which the model is to be made is very important. If the scale is large, one half inch, for instance, the details are easy to cut and handle, though their size and increased number greatly increase the cost. If the scale is small, say one-eighth inch, most of the details can be left out. But in between is dangerous ground, for the details must be shown and are yet so small that they are difficult to work with, taking much time to make and assemble. Eighth scale is preferable, for it is the least expensive in time and yet gives satisfactory effects of mass and arrangement both for study and for demonstration, and the model looks larger than the scale drawings.

There remain but two more considerations before we take up specific directions: reveals for window and door openings, and landscape in which to set the model. The first seem to be absolutely necessary even though it takes much time to cut them, for if omitted, the whole effect is papery. But the second, the landscape, takes even more time, and does not seem really a necessity. The model is finished, and it seems that a little setting will easily be made, which will display it better. But when the actual time spent in making the ground slope on all sides and in putting down walks and "planting" trees is counted up, it will be found that it is entirely out of proportion to



the value of the result. It looks easy to do, but the appearance is very deceptive. Better lay a piece of green plush over the board to which the model is to be screwed, and let it go at that; or perhaps paint the garden on a piece of detail paper to put under the model, but when an elaborate garden is started there is no place to stop.

The diagrams will doubtless give all the necessary details of cardboard model making, but the process had perhaps better be outlined in brief. The carpenter makes a wooden framework or core to which are attached the elevations, roofs and other details of cardboard. These latter are almost completely finished before assembling, for it is far easier to cut windows and draw in detail while the card is on the drawing board, than after it is on the frame.

Use liquid glue for fastening in most cases and nails where needed. Opaque show-card colors will fill over a nail head and cover a multitude of sins. The glue gets over everything and the paint is a necessity for a proper finish, but keep it out of the window reveals, for it fills the corners. Glue applied thickly to the inside of an edge will attach it solidly edge-wise to a surface, but it must be held in place till set. The plaster cornice is made by cutting down a "potato hill" of freshly-set plaster with a zinc template, kept true by a guide at one side. Keep the template wet and clean, and cut only a little at each drawing. When dry the cornice can be sawed on a mitre and fitted with a file. For simple cornices fill up the eaves with plaster, using a putty knife. A small cornice is so inconspicuous that careless treatment does no harm.

EDITORIAL COMMENT

SPECIAL interest attaches to the fifty-second annual convention of the American Institute of Architects to be held in Nashville, Tennessee, on April 30, May 1 and 2, 1919. It will provide an opportunity for an interchange of thought, maturing from the consideration of the difficulties experienced in the practice of architecture during the war, that have been the subject for discussion for many months in the architectural press and wherever a group of architects has gathered. The proceedings of the convention will be looked to for a definite indication of changes in the objects of the profession and in its methods of functioning, for there is a strong conviction within the profession that changes are necessary if the cause of architecture in this country is to receive a worthy opportunity.

There is need for a big, constructive vision of the force architecture is capable of exerting in the development of our national life, and the Institute must recognize its duty in directing the work of the profession, so that it may be raised to a plane of responsibility that will insure the respect and confidence of the great building public.

We have emerged from the terrible stress of war with new determination to make the world a better place to live in, to provide every one with an opportunity of placing a proper value on his life and services, but also to hold each to the responsibility that rests on him in a democratic community. This thought is not confined to our political life, it is permeating business and the professions, and is part of all our relations in every-day life. Opportunity will be freely given in these new days ahead but responsibility will be as surely exacted. The profession of architecture must submit to judgment on the same terms as all other activities. It will only receive recognition and reward in proportion to the service it renders.

In late years we fear the profession has been too ready to let others assume responsibility that rightfully belonged to it. It has been content to narrow its interests in building to the consideration of aesthetics, for the larger part, with the result that those phases of building which affect its practical fulfillment and are considered in the mind of the client as fundamental, have chiefly been undertaken by others whom architects from their supposedly advantageous position looked upon only as necessary factors in the process of giving material expression to their designs. These, however, are the men whom the public has recognized as the actual constructors; these also are the men who have assumed the responsibility the public demands. Is it small wonder then that our government, which is, after all, composed only of representatives of this same public, turned to engineers and contractors to carry on the great building program incident to the war and dis-

missed architects, except for housing work, stating that there was no architecture concerned with war work and only practical builders were needed?

This experience strengthened the growing thought of many in the profession that the full opportunities for service were not being grasped by architects, and that a new development in professional activities was necessary if architecture was to maintain a dominating position in the building world. The period of reconstruction through which we are now passing is, therefore, of vital significance to architects, for they are confronted squarely with important issues bearing upon the future of their profession. The conditions which are being viewed today with concern by thoughtful architects are the outcome of the standards governing the practice of architecture, that have been promoted by all the sources of influence associated with architecture—the leaders of the profession, the Institute, the schools, and the societies. The tendency for a number of years has been to limit the architect's scope to narrow confines. Many of his duties have been taken over by specialists who have come into being with the greater development of building. Thus, engineering, which was once but a simple science of building, has now come to embrace a great variety of exacting services, but architecture through the activities of its own practitioners and by their own choice, has come to have no meaning except when it shows some relationship to "art." Engineering as a science has taken unto itself power and importance with the development of building, but architecture instead of maintaining its dominant position through growth and expansion, has in a measure disintegrated and must soon receive strong support if its influence is not to be greatly lessened.

This support will not come through the over-emphasis of professionalism that has been characteristic of the Institute's guidance; it will not come through restrictive measures no matter how carefully devised, for only a limited number will choose to respect them. It will only come through the adoption of a broad constructive policy that will at once command the respect of every member of the profession and compel him to elevate his service to the level established by his co-practitioners and recognized by the public as a basis of quality.

The Institute has the opportunity of correlating the efforts of all those working in and with the profession, and of carrying on a forceful propaganda that will awaken architects to their responsibilities on the one hand, and acquaint the public with the great advantages derived from good architecture on the other, enlisting thereby an active interest in the work and aims of the profession that will give it the spark of life required to provide buildings that will meet the needs of an awakened and enlightened people.